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FINE ARTS CENTER
LANDER COLLEGE

FINE ARTS CENTER, LANDER COLLEGE

Joseph Daniel Nuzzaco Spring, 1980

A Terminal Project submitted to the faculty of the College of Architecture, Clemson University, in partial fulfillment of the requirements for the Degree of Master of Architecture.

APPROVED:

[redacted]

Peter Lee, Committee Chairman

[redacted]

Kenneth Russo, Committee Member

[redacted]

James Washburn, Committee Member

[redacted]

Gayland Witherspoon, Head, Department of Architectural Studies

[redacted]

Harlan E. McClure, Dean, College of Architecture

DEDICATION

To my parents for their support and encouragement.

CLEMSON UNIVERSITY LIBRARY
604992

ACKNOWLEDGEMENTS

I would like to give special thanks and appreciation to those who gave much assistance and guidance: Professor Peter Lee, Committee Chairman, Professor Ken Russo and Associate Professor James Washburn, Committee Members, Professor M. David Egan, and Mr. Charles E. Dunn, Vice President for College Relations.

And to those who gave endless hours and effort, Mike O'Brien, R. Scott Boulton, Ann Marie Jacques, James Schlank, and Patricia Jenks.

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PROBLEM STATEMENT

PROBLEM STATEMENT

Lander College, located in Greenwood, South Carolina, is a state supported four year liberal arts college which is currently pursuing an active expansion program in accordance with a master development plan, entitled "Campus 80." Two facilities, a student center and a library, have recently been completed and a classroom building is under construction. The next major building proposed for the campus is a Fine Arts Center.

The problem addressed in this terminal project is the design of a Fine Arts Center for Lander College which will provide the necessary facilities for the education of students pursuing careers in the areas of music, drama, and art. Additionally, the center will serve the general student body and the Greenwood community through gallery shows, theatrical performances, and musical events.

LANDER COLLEGE

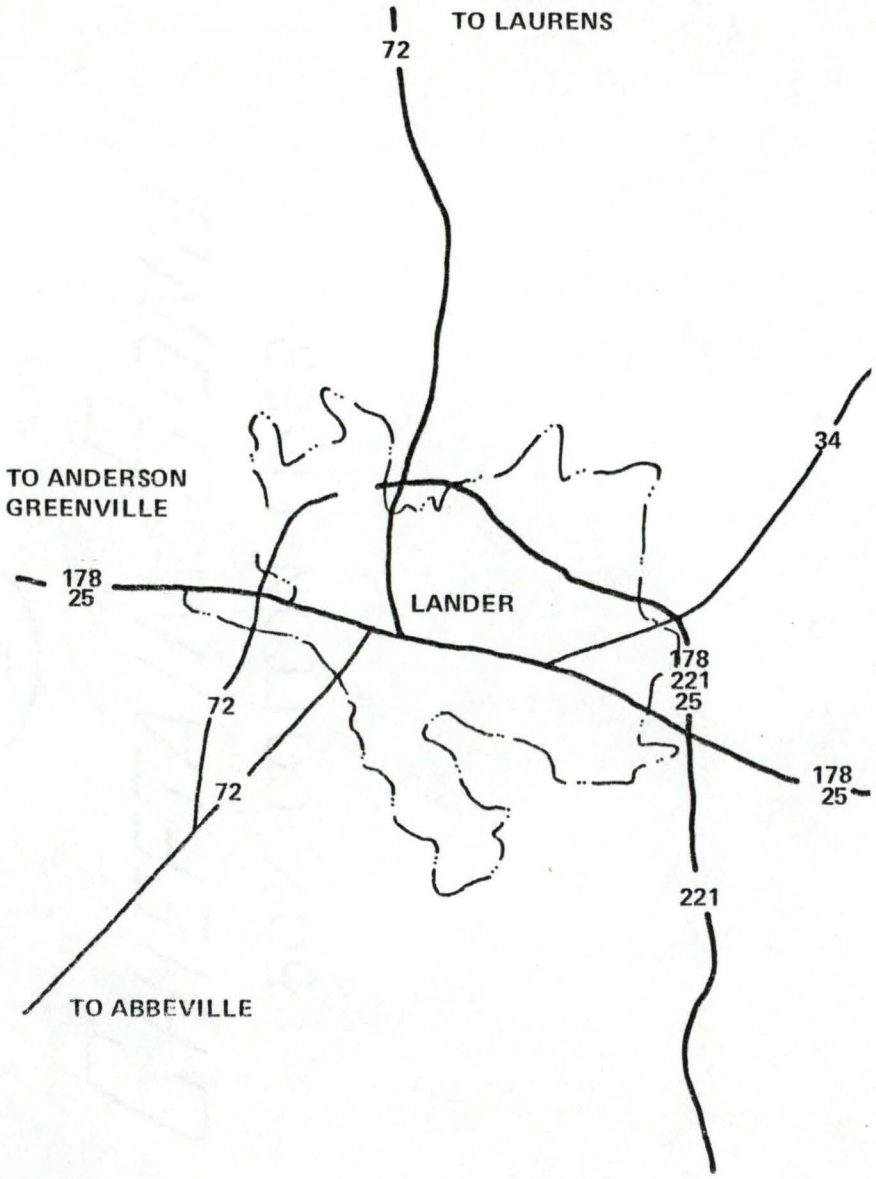
BACKGROUND

The origin of Lander College dates back to 1872 when Samuel Lander, a Methodist clergyman, founded Williamston Female College, located in Williamston, South Carolina. This college operated as a private institution until 1898 when it became part of the educational system of the South Carolina Conference of the Methodist Episcopal Church, South. In 1904 the college was relocated in Greenwood, S.C. and named Lander College in honor of its founder. It remained a women's college until 1943 at which time it became coeducational.[1]

In 1948 the college lost its support from the Methodist Conference. Interested citizens of the Greenwood community, who wished to see the institution continue, created the Lander Foundation which leased the college facilities from the church and temporarily operated the school. Three years later in 1951, the South Carolina General Assembly created the Greenwood County Educational commission which acquired and continued the operation of the four year liberal arts college.[2]

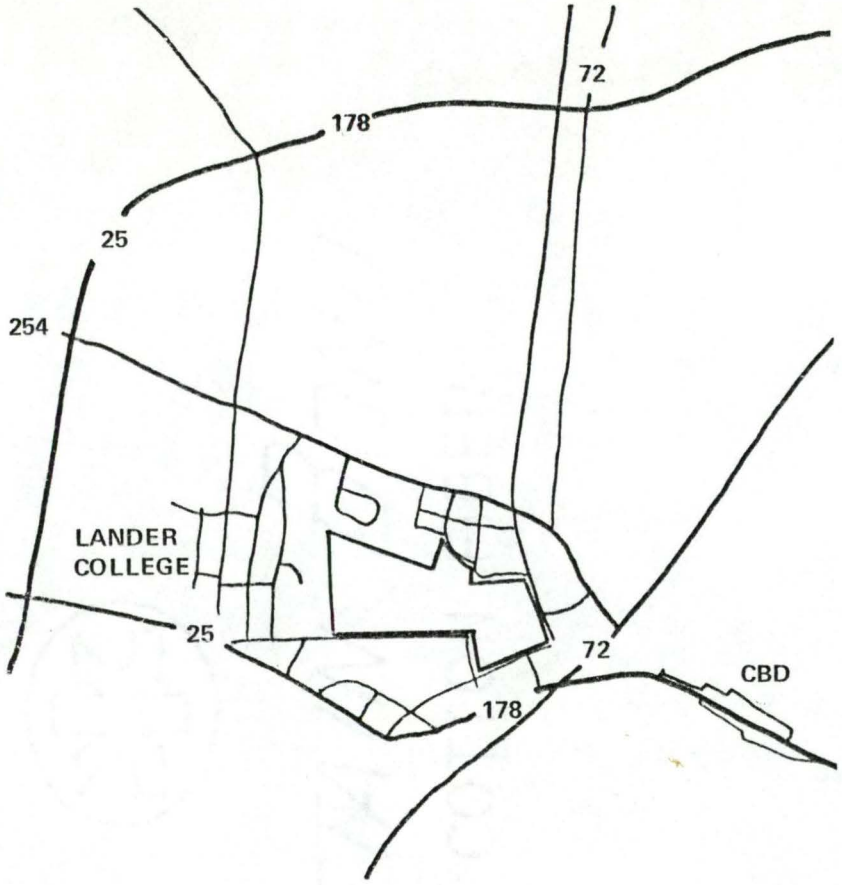
On July 1, 1973 Lander College became part of the South Carolina State System of Higher Education as a state supported school. Under state support the college has been able to undertake a much needed building program. When completed, the program will provide new buildings for a majority of campus activities. Significant historic structures, such as the Old Main Bell Tower will be preserved and integrated with the new construction.[3]

LOCATION



The city of Greenwood is in the upper part of South Carolina and is the governmental seat of Greenwood County. The Lander College campus is situated in a residential section of the city just two blocks north of the central business district, and between two primary traffic routes into Greenwood, I 178 and I 72. These routes pass one block to the south and one block to the east of the campus respectively. The campus itself is bounded by Stanley Avenue, Crews Street, and Willson Street on the south, Durst Avenue on the east, and Lawson Street on the north. These are all local streets serving the residential neighborhood surrounding the campus. The main campus is comprised of 64 acres. Several additional properties belonging to the school comprise another 5 acres.

CONTEXT

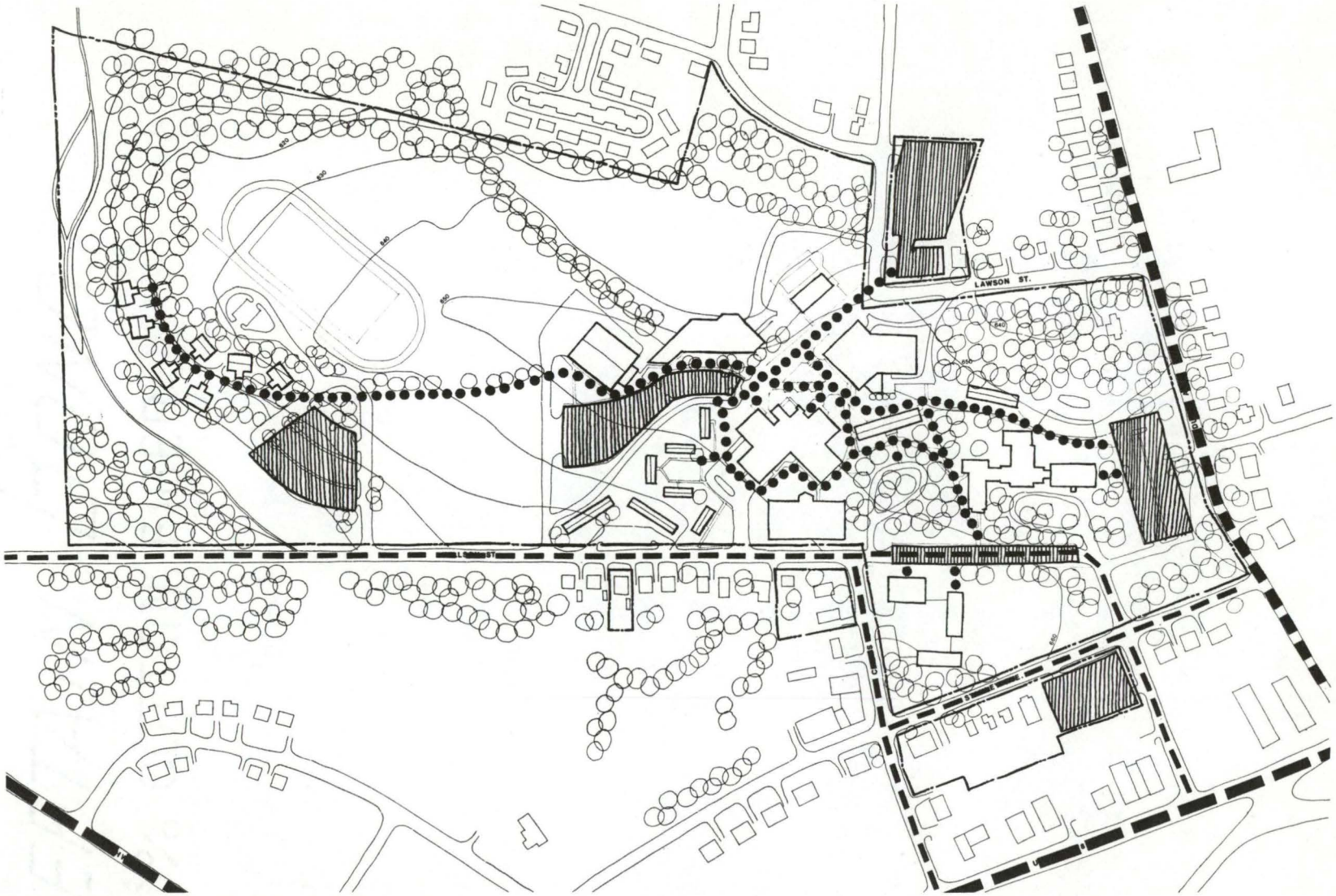


The area surrounding the campus is an older residential neighborhood of one and two family dwellings. Residences on the east side of the campus are in generally good condition, those to the south and west are in fair condition, while to the north many are in poor condition. The college plans to acquire certain properties in this latter area for expansion of its campus housing.

The Leslie Elementary School, located on the corner of Stanley Avenue and Crews Street, is presently being used and is in need of some general improvements.

The area along highway I 178 to the south of the campus contains a mixture of older residences and newer commercial structures.

CONTEXT



VEHICULAR HEAVY

VEHICULAR - MODERATE

VEHICULAR - LIGHT

PARKING

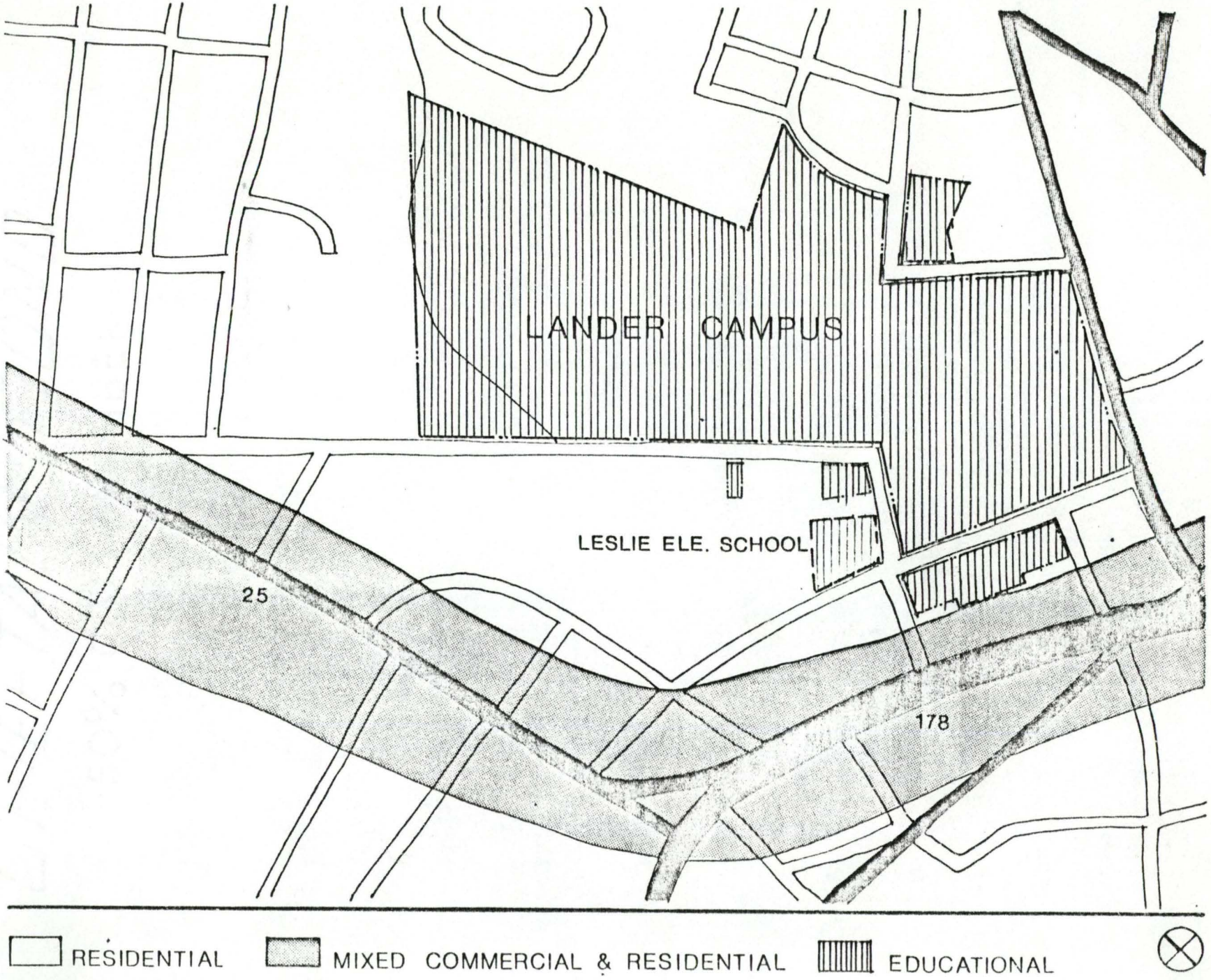
PEDESTRIAN - HEAVY

PEDESTRIAN - MODERATE

CAMPUS CIRCULATION

FINE ARTS CENTER
LANDER COLLEGE, GREENWOOD S.C.

0 100 200 400


LANDER CAMPUS
LESLIE ELE. SCHOOL
25
178
RESIDENTIAL
MIXED COMMERCIAL & RESIDENTIAL
EDUCATIONAL

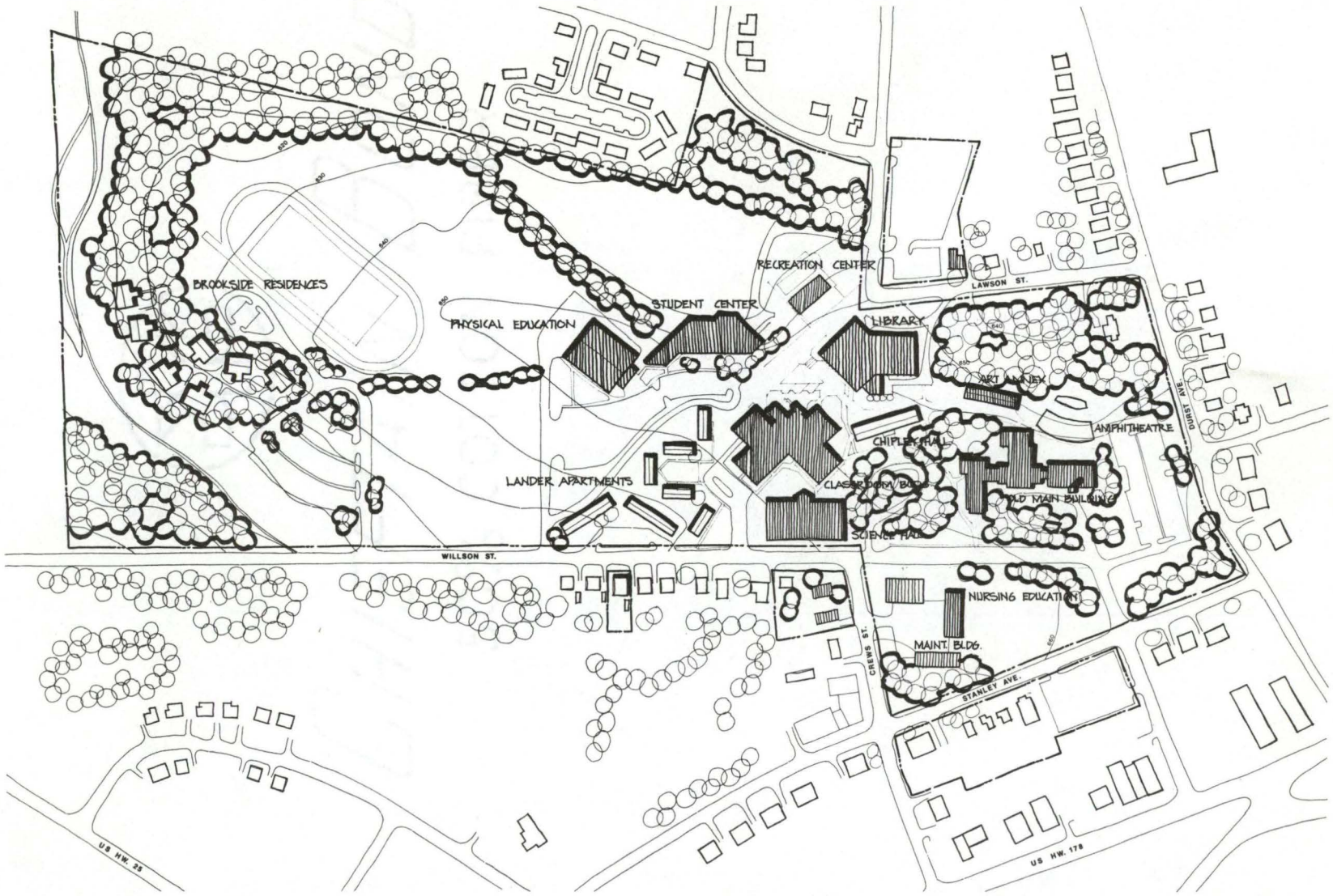
CAMPUS

The Old Main Building, constructed at the time of its founding in 1904 and a dormitory built in the 1920's, were the only buildings on the campus of Lander College until post World War II, when increased enrollment called for additional housing units. A science hall, nursing education building, and art annex were added to the campus during the late 1960's and early 1970's. Although meeting immediate college needs, most of this building development was done without regard for any overall campus order and did not reflect a logical campus growth pattern.

Upon designation as a state supported institution in 1973, a master development plan entitled "Campus 80" was undertaken by the planning firm of Byrd H. Davis. The first building constructed in accordance with this plan was the Jackson Library completed in 1977. This was followed by the Greer Student Center two years later. A classroom building is currently under construction, and the subject of this terminal project, a Fine Arts Center, will be built in the near future. These four buildings will constitute a new college center and will become the visual as well as the activity focus of the campus.

New construction not part of the college center includes the Brookside Student Housing complex which currently consists of seven units built along a stream on the west portion of the campus. Additional units are planned for the future. In addition to new construction, the master

development plan calls for the renovation of Chipley Hall, the expansion of the Physical Educational Center and the removal of the early post war Lander Apartments, the Art Annex and portions of the Old Main Building.



EXISTING CAMPUS

FINE ARTS CENTER
LANDER COLLEGE, GREENWOOD S.C.

BUILDINGS

(1) Old Main Building (1904–1911)

General administration building containing faculty offices, classrooms, music and theatre spaces. The several additions to the original three story brick building and bell tower are to be removed upon completion of the new classroom building in 1982.

(2) Amphitheatre (1922)

Informal outdoor gathering space with stepped concrete seating and a stage platform with a brick wall backdrop. To be retained.

(3) Chipley Hall (1924)

Women's dormitory, a three story brick building to be retained with extensive renovations.

(4) Lander Apartments (1950)

Seven building complex accommodating student housing, security and infirmary offices. These two story brick apartment structures will be removed to make way for the Fine Arts Center.

(5) Barratt Science Hall (1967)

Classroom, laboratory, and office building for the Science Department. This one story brick faced structure to be retained with possible expansion.

(6) Barksdale Physical Education Center (1971)

Metal framed structure with partial brick facing containing a gymnasium, locker rooms and offices for the Health, Physical Education, and Recreation Departments. To be expanded in the near future.

(7) Nursing Education Building (1974)

Nursing Department classroom, laboratory, and office building. A one story brick structure which will be retained.

(8) Art Annex (1974)

One story block building located behind the Old Main Building which contains studio space for ceramics, sculpture, and painting. To be removed upon completion of the new Fine Arts Center.

(9) Brookside Housing (1976)

Housing complex of seven residence halls each accommodating 40 students in wood townhouse type structures. Additional units of similar design to be built in the future.

(10) Larry A. Jackson Library (1977)

Library resource center with reading areas, stack space for 150,000 volumes, and temporary classrooms. Three story concrete frame structure with brick exterior walls. The classrooms will be converted to library space upon completion of the classroom building.

(11) Boyce M. Grier Student Center (1979)

Recently completed building containing cafeteria, bookstore, post office, meeting rooms, T.V. and recreation rooms, and student affairs offices. Three story brick building with a central lobby space on the second level directly off the college plaza. The building forms one edge of the plaza.

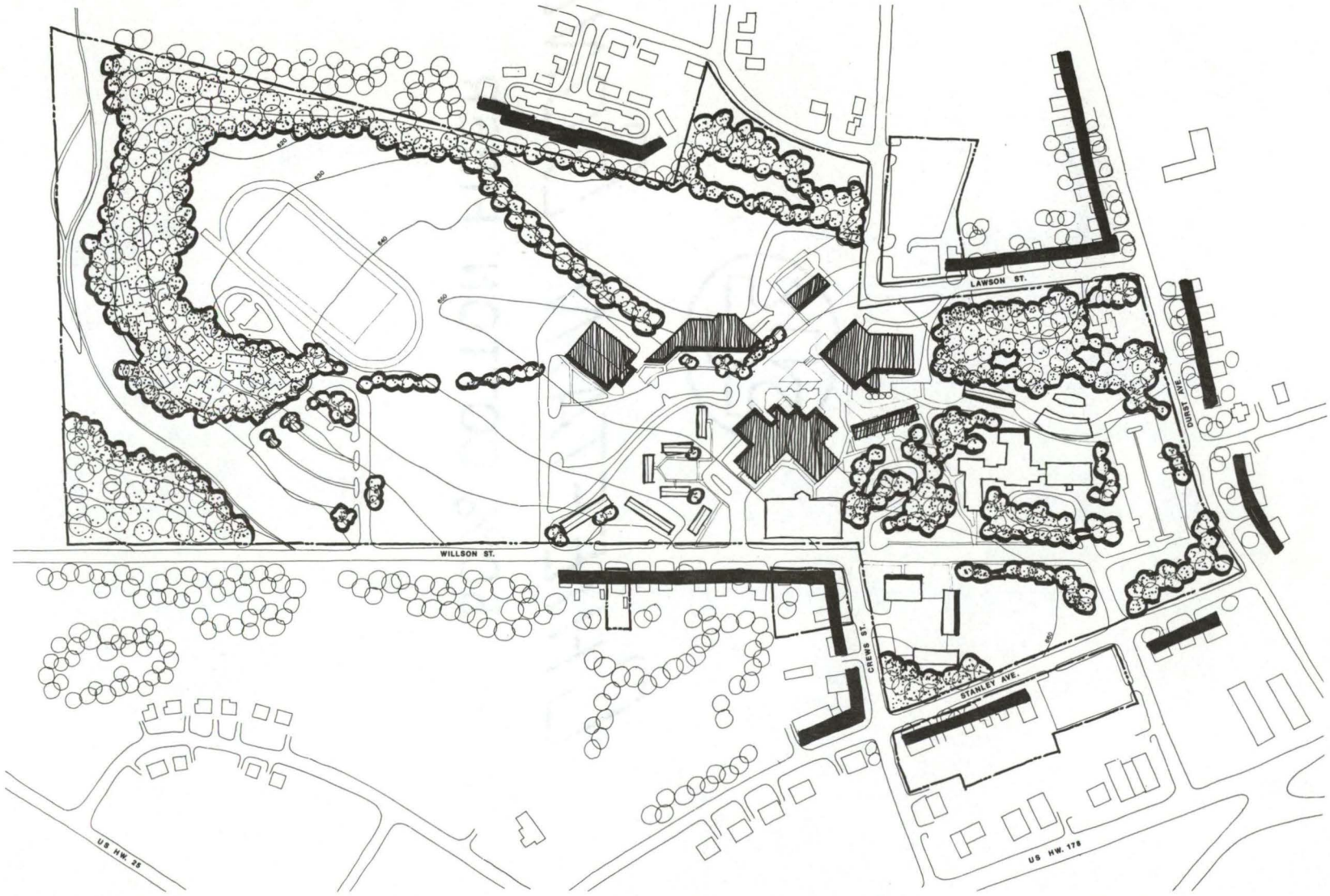
(12) Classroom Building (1982)

Classroom and office building with lecture hall. Similar functions now contained in Old Main will be moved to this building when completed. The three story brick structure will form another edge of the college plaza.

IMAGE

Lander College is undertaking a phased building program to develop a new college center. All new campus buildings, and spaces, are being organized to create a unified campus with a strong visual focus.

The future campus environment will offer a variety of spatial experiences from open grass fields to tight "urban" spaces. A major pedestrian artery, fed by smaller paths from parking areas and green spaces, will connect the various campus buildings with vehicular traffic confined to the campus periphery.



SOFT TREE EDGE

HARD BUILDING EDGE

NEIGHBORHOOD EDGE

OPEN SPACE

SPATIAL ANALYSIS

FINE ARTS CENTER
LANDER COLLEGE, GREENWOOD S.C.

0 100 200 400

STUDENTS

Lander College is primarily a regional college of which three quarters of its students are from Greenwood and neighboring counties, with the remainder coming from other parts of the state. Of the 1300 students currently attending Lander College, one quarter live in campus housing. A majority of students live in the city of Greenwood or commute from nearby areas. Its origins as a women's college are no longer evident, with the student body being equally divided between men and women. Racial integration has had less effect with black or minority students constituting less than 10% of its enrollment.[4]

PROGRAMS

Lander College is a four year liberal arts institution offering a variety of academic programs leading to a Bachelor of Arts, Bachelor of Science or an Associate of Arts Degree. B.A. Degrees are offered in Art, English, History, Modern Language, Music Education, Political Science, Psychology, Sociology, and Speech and Theatre. B.S. Degrees are offered in Biology, Business Administration and Education, Chemistry, Education, Physical Ed., Home Economics, Mathematics, Medical Technology, Political Science, Psychology and Sociology. A.A. Degrees are offered in Nursing and Secretarial Science.[5]

FINE ARTS CENTER

CLEMSON UNIVERSITY LIBRARY

MASTER PLAN

The Campus Development Plan, "Campus 80," for the growth of Lander College was initiated by Lander College after becoming a state supported institution in 1973. The purpose of the plan was to establish a planning framework to obtain order, continuity and architectural unity in all future buildings. Specifically, "the Development Plan calls for the creation of a cluster campus with some characteristics of a linear concept. New buildings would generally occupy the higher elevations of the southern half of the campus. A pedestrian mall and several plazas and courts would link all buildings at grade level. Open space would be retained around the cluster as a buffer and to provide contrast with the "urban" character of the mall. Parking would be provided around the periphery of the campus . . . "[6]

PRESENT FACILITIES

The Lander College departments of music, drama, and visual arts are currently located in the Old Main Building with some of the art studios in the Art Annex.

The Old Main Building, containing the classrooms and office spaces for the three departments, is in deteriorating condition. Many of these activities are suffering from lack of space and the proper educational environment necessary to carry out their educational purpose. The college auditorium, located in the oldest portion of this building identified by the bell tower, serves as a theatre and recital hall. The theatre stage area is undersized and there is no fly loft nor accommodations for a scene shop or dressing rooms. The auditorium uses folding chairs on a flat floor to seat 250 persons. Activities requiring a larger seating capacity are held in the Barksdale Physical Education Center.

The Art Annex building, located behind the Old Main Building, was constructed to provide temporary ceramics, sculpture and painting studio spaces. It was built as an expedient measure to meet increased growth in the college's visual arts program and will be removed when the Fine Arts Center is completed.

OBJECTIVES

The Fine Arts programs of Lander College are "designed to serve the central purpose of the college and remaining cognizant of the unique role of the fine arts through the history of mankind in preserving cultural traditions, delineating social change and provide the most lasting means whereby man may recreate himself."[7] The program objectives are:

to prepare students with the skills for their future pursuits in fine arts careers,

to enrich the educational experience of all students by providing opportunities for the students to observe and participate in the fine arts activities, and

to encourage community support and enjoyment of the programs at Lander College.[8]

ACTIVITIES: MUSIC

The music department activities are intended to be of varying degrees of interest to all students. Many will be seeking only to broaden their general awareness and appreciation .while a few individuals will be developing their talents for future occupations in music. For those students the department offers a program leading to a B.A. degree in Music Education.

CONCERT HALL

The concerts presented at Lander are primarily for the students' educational benefit, but are open to the community also. Most of the performances will be comprised of student groups—band, chorus, small ensembles, and soloists. Both the band and chorus give performances each semester. In addition, music majors are required to participate in student recitals each semester. The concert hall will also be used to host some of the Greenwood–Lander Performing Arts Series programs such as piano recitals, vocal ensembles and dance companies. On such occasions perhaps over 50% of the audience will be from the Greenwood community.

The concert hall would have seating for 700 persons of which 550 seats would be on the main floor and 150 seats in the balcony. The balcony would be used for performances with a large audience. The stage would have a full fly loft and full side stages. An orchestra pit with three lift positions; stage house floor, and below house floor, would accommodate

30 musicians. Sufficient area adjacent to the stage should be provided to store chairs, acoustical shells, and two grand pianos.

REHEARSAL ROOMS

In close proximity to the concert hall would be two rehearsal rooms, one for band and one for choir. Each would hold practice sessions three times per week for an hour-and-a-half duration. Separate spaces are needed because of differing rehearsal arrangements. The choral room needs stepped wooden platforms to seat 80 singers, while the band room would have a flat floor. Both rooms would have music folder cabinets, tack and chalk boards, and recording-playback equipment, controlled from a central recording booth. For proper acoustical volume a ceiling height of 17 feet or more is necessary.

PRACTICE ROOMS

Sixteen practice rooms of about 50 sq. ft. each would be located at the same level as the rehearsal rooms and lockers. Special acoustical considerations would be needed to insure adequate sound isolation between rooms. In addition, four larger rooms would be needed; two for ensemble groups, one to accommodate two pianos, and another room for a portable organ. Instrument lockers of varying sizes to serve 80 students should be located near both rehearsal and practice rooms.

STORAGE

Storage space for choir robes, band uniforms and percussion equipment, along with a repair room should be provided adjacent to the rehearsal rooms.

MUSIC FACULTY OFFICES

A total of nine office spaces would be needed for the music faculty to conduct private lessons and administrative duties. The offices should be located away from large public spaces and classrooms, and acoustically treated to provide sound isolation between rooms. A break-down of the office requirements is as follows; two with grand piano and desk, two with studio piano and desk, three with one grand piano and one studio piano and desk, one for the choral director and one for the instrumental director.

CLASSROOMS

Four classrooms for 20 to 30 students each would be required for music history, theory, and teaching methods classes. Each room should have space for A.V. equipment and a studio piano, in addition to chalk boards with staff lines. In addition to the four classrooms, one large music education classroom containing a project work area with cabinet storage for small instruments and A.V. equipment would be required.

ACTIVITIES: DRAMA

The drama department activities are based around the development of communication skills through acting, body movement, and characterization. A B.A. degree in Speech and Theatre will prepare students for careers in education, professional theatre, and community theatre.

THEATRE

Theatre productions are put on by students twice a semester with five performances each during which the students experience at first hand the preparation and process involved in all aspects of theatre work. Typically Lander College plays have drawn audiences from the Greenwood community. The theatre will occasionally be used for lectures by guest speakers.

The theatre would have a proscenium type stage with full fly loft and orchestra pit. The proscenium opening should be 32' wide and 20' high with a stage depth of 32' and side stages of 20' each. The orchestra pit lift should have three positions and accommodate 20 musicians.

THEATRE SCENE SHOP

The scene shop is a work area for the construction and painting of scenery flats in preparation for theatre productions. A ceiling of approximately two stories in height is necessary for this work. Within this area would be a shop office, a tool room, a flammable materials storage room, and an area for lumber and fabric. About one third of the shop could have a loft area added for additional storage. The shop should have direct access to

the stage area and the service dock through large sound proof double doors.

COSTUME SHOP

Costumes for theatre productions will be designed and made in this space. It would contain large work tables for cutting, an area for sewing machines, a dyeing bin, and an adjacent storage area for fabric bolts and finished costumes. A fitting room would be included in this space.

DRESSING AND MAKEUP ROOMS

Separate dressing and makeup rooms for men and women would be provided, each with costume racks, toilets, lavatories, shower stalls, and a counter with lighted mirrors to accommodate twelve people. These rooms should be adjacent to the theatre stage with convenient access to the concert hall.

GREEN ROOM

The green room would serve as a pre-performance meeting space for actors, a reception area following performances, and as an informal lounge for the drama club.

MULTI-PURPOSE ROOM

This space would be used for experimental theatre as well as lectures and acting classes. It would require a high ceiling with a grid for mounting of

lighting equipment and scenery flats. Adjacent storage should be provided for mats, platforms, and chairs. It should have convenient access to the scene shop and dressing rooms.

DANCE STUDIO

This space will be used as a training and practice space for dance classes of approximately 25 students. One full wall should be mirrored, while the wall opposite would have ballet barres. Ceiling height in the studio should be a minimum of twelve feet. Adjacent to the studio should be men's and women's dressing rooms with lockers, toilets, and showers.

CLASSROOMS

Two conventional classrooms to accommodate 20 to 30 students would be required. A third room of the same size would be equipped with large tables for classes in scenery design, stage design, and lighting.

OFFICES

Six office spaces would be required, each with a desk, file cabinet, and book shelves. These offices would relate to classrooms and the secretary office.

ACTIVITIES: VISUAL ARTS

The Visual Arts program is intended to develop students' ability to deal proficiently with various visual media in a creative manner. Courses include art history, art theory and studio work. The program offers a B.A. degree in Art.

GALLERY

The gallery would be used to display student work as well as traveling shows and the work of local artists. It should be a flexible open space capable of accommodating enough to allow a variety of display arrangements. It should relate directly to the college plaza.

GALLERY PREPARATION

This room would contain receiving, storage, and preparation space for art work to be displayed in the gallery. Large double doors would connect it to the gallery and service dock.

CERAMICS STUDIO

This studio would accommodate 15 to 20 students at any one time and would contain large work tables, pottery wheels, drying racks, sinks, and storage bins for clays and glazes. Adjacent to it would be a small private work area and kiln. The studio should have large doors leading to a service and outdoor work area.

SCULPTURE STUDIO

Various types of sculpture work, including metal and stone, would take place in this studio. It would contain different areas for welding and stone cutting. Large work tables would be required, along with adjacent storage areas for materials and tools. The studio would include a foundry and a private work space. It should have large doors leading to a service and outdoor work area.

WOODWORK STUDIO

The shop would be used in conjunction with the sculpture studio and contain woodworking machinery, a tool room, and lumber storage area with easy access for material delivery. It should have direct access to a delivery area. Because of the noise generated by the machinery, it would need to be given special consideration in terms of acoustic design.

PHOTO STUDIO

This studio would consist of a work space with several layout tables and two darkrooms with developing and printing facilities. It should be near the classroom area.

PRINTMAKING STUDIO

This studio would accommodate 6 to 8 students at one time working with various printing techniques such as silkscreen, roll press, wood cuts, and etching. It should contain work tables, sinks and storage cabinets.

ARTS & CRAFTS ROOM

This classroom would serve as a demonstration and experimentation lab for education courses dealing with the use of various art materials. The room should contain work tables, a sink and a storage closet.

DRAWING STUDIOS

Three classroom size studios would be required for courses in life and still-life drawing classes. Special considerations should be given to privacy when life classes are being conducted. Flexible lighting arrangements would be necessary.

CLASSROOMS

One large room for 50 students and a smaller room for 20 students, both with audio-visual capability, would be required

OFFICES

The Art Department faculty consist of four full-time and two part-time professors, each needing an office space located in close proximity to the studio spaces. Each could contain a drawing table and storage space for art work.

SPACES: MUSIC

		AREA SQ. FT.
CONCERT HALL		6300
Conventional seating for 700 persons @ 9 sq. ft. per person		
STAGE		4800
Full fly loft		
Proscenium opening	48′	
Proscenium height	26′	
Side stage width	24′	
Stage depth	50′	
ORCHESTRA PIT		520
To accommodate 30 musicians @ 15 sq. ft. per person plus 50 sq. ft. for piano and tympani		
STORAGE AREA		1000
LOBBY		1750
700 persons @ 2.5 sq. ft. per person		
Ticket window		60
Restrooms, men and women		500
CHORAL REHEARSAL ROOM		1500
To accommodate 80 seats		
ROBE STORAGE		100

	AREA SQ. FT.
INSTRUMENTAL REHEARSAL ROOM	1500
To accommodate an 80 piece band	
BAND UNIFORM STORAGE	120
PERCUSSION STORAGE	120
REPAIR ROOM	100
INSTRUMENT LOCKERS	100
Varying size cubicles	
RECORDING BOOTH	120
To serve both choral and instrumental rehearsal rooms	
CLASSROOMS	2400
Four rooms @ 600 sq. ft. each	
LARGE CLASSROOM	1200
PRACTICE ROOMS	
16 rooms @ 50 sq. ft. each	800
1 room to accommodate two pianos	120
2 ensemble rooms @ 120 sq. ft. each	240
1 organ room, portable type	120

	AREA SQ. FT.
STUDIO – OFFICE	
2 each with grand piano @ 175 sq. ft.	350
2 each with studio piano @ 135 sq. ft.	270
3 each with grand piano and studio piano @ 200 sq. ft.	600
1 choral director	120
1 instrumental director	150
CHORAL MUSIC LIBRARY	100
INSTRUMENT MUSIC LIBRARY	100
ADMINISTRATION OFFICE	
Secretary/reception room with 2 work stations	300
Work room	200
Fine Arts Director office	150
Conference Room	350
SUBTOTAL	26,160 SQ. FT.

SPACES: DRAMA

		AREA SQ. FT.
DRAMA THEATRE		2250
Conventional seating for 250 persons @ 9 sq. ft. per person		
STAGE		2300
Full fly loft		
Proscenium opening	32′	
Proscenium height	20′	
Side stage width	20′	
Stage depth	32′	
ORCHESTRAL PIT		370
To accommodate 20 musicians @ 15 sq. ft. per person plus 50 sq. ft. for piano and tympani		
LOBBY		625
250 persons @ 2.5 sq. ft. per person		
Ticket window		60
Restrooms, men and women		300
DRESSING/MAKEUP ROOMS		800
Two separate rooms for men and women to accommodate 12 persons each		
Toilets and showers		350
GREEN ROOM		450

		AREA SQ. FT.
COSTUME SHOP		700
ACTIVITY ROOM		1200
ELECTRICAL SHOP		180
HAND PROP STORAGE		180
GENERAL THEATRE STORAGE		600
SCENE SHOP		2100
To include shop office, tool room, paint area, material storage, and assemblage area		
LECTURE/DESIGN STUDIO		600
CLASSROOMS		
Two rooms @ 600 sq. ft. each		1200
DANCE STUDIO		2400
Width	40′	
Length	60′–80′	
Height	12′	
OFFICES		960
Six offices @ 160 sq. ft. each		
SUBTOTAL		17,625 SQ. FT.

SPACES: VISUAL ARTS

	AREA SQ. FT.
GALLERY	2000
GALLERY PREPARATION	1200
CERAMICS STUDIO	1000
Materials storage	120
SCULPTURE STUDIO	1000
Materials storage	120
WOODSHOP	1000
Materials storage	120
PHOTO LAB	600
Storage	50
PRINTMAKING STUDIO	600
Storage	50
ARTS AND CRAFTS	1200
Storage	50
DRAWING CLASSROOM	3000
Three studios @ 1000 sq. ft. each	

	AREA SQ. FT.
LECTURE CLASSROOM	1200
SEMINAR CLASSROOM	600
UPPER LEVEL STUDIOS	800
Eight independent work spaces @ 75 sq. ft. each	
SLIDE ROOM	250
OFFICES	800
Five offices @ 160 sq. ft. each	
SUBTOTAL	15,760 SQ. FT.

MUSIC SUBTOTAL	26,160 SQ. FT.
DRAMA SUBTOTAL	17,625 SQ. FT.
VISUAL ARTS SUBTOTAL	15,760 SQ. FT.
NET BUILDING AREA	59,545 SQ. FT.
CIRCULATION @ 15% total net area	9,000
MECHANICAL @ 8% total net area	4,800
STRUCTURAL @ 2% total net area	1,200
GROSS BUILDING AREA	74,545 SQ. FT.

DESIGN APPROACH: SITE

The selected location for the Fine Arts Center is the space between the Physical Education Center and the new classroom building, fronting on the Student Center. In this setting the Fine Arts Center will serve as a visual terminus for the College Center. A pedestrian plaza will link it to the other buildings in the center.

The sloping terrain of the site permits the Concert Hall and Theatre to step down from the plaza entry level to a lower stage level at the back of the site. One service area would be provided at this level with a second service court at the upper level adjacent to the Classroom building.

Since the campus is pedestrian oriented, all new parking facilities will be located around the campus center between major walkways and access streets. The parking area for the Fine Arts Center will be off Willson Street sharing space with resident student parking.

DESIGN APPROACH: BUILDING

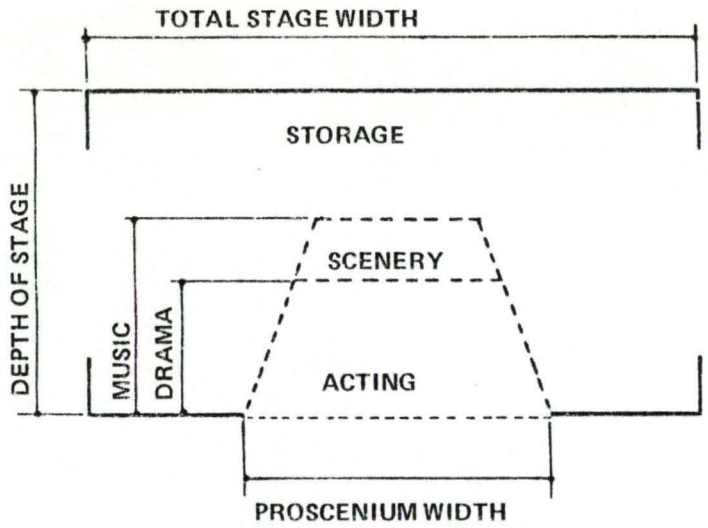
The functional organization of the Fine Arts Center consists of three elements containing the music, theatre and visual arts activities in a staggered arrangement with public spaces, which relate directly to the plaza, wrapped on three sides by teaching and administrative spaces.

The form of the center is a series of three progressively larger building volumes organized in a stepped arrangement. The narrowest portion contains the visual arts activities and the widest portion music activities. A single story edge relates to the human scale at the plaza side, while the stepped three story height at the rear of the building facing Willson Street is reflective of the larger scale of the total campus. This stepped facade coupled with angled windows is responsive to the west orientation and aids in softening the building mass.

A steel frame superstructure is used for its economy and simplicity of construction with concrete retaining walls for below grade sections. The building envelope is brick of a similar color and coursing as used on other new campus buildings. This brick is continued in the interior corridors. A detail of brick banding is used to emphasize the layering of the building forms. Brick pavers used in the plaza are carried into the lobby areas.

RESOURCES

DESIGN DATA

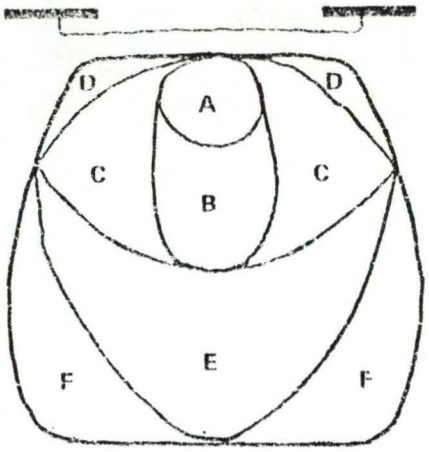


STAGE[9]

Proscenium Width (w)	Drama 30′ to 40′ Music 40′ to 50′
Stage Depth	w to 1 1/2 w
Wing Space	one half of proscenium width on each side of opening
Acting Area	Drama 1/2 w Music 2/3 w 240 sq. ft. minimum 525 sq. ft. average 800 sq. ft. maximum
Working Height of Curtain	Drama 15′ to 20′ Music 20′ to 30′
Apron Width	width of proscenium depth 2′ minimum
Orchestra Pit	15 sq. ft. per person 50 sq. ft. for piano 50 sq. ft. for tympani

SIGHT LINES[10]

Distance From Furthest Row	Drama 50′ to 75′ Music 100′ to 125′



SEATING IN ORDER OF PREFERENCE

A FRONT CENTER

B MIDDLE CENTER

C MIDDLE SIDE

D FRONT SIDE

E REAR CENTER

F REAR SIDE

Maximum Sight Line Angle From Balcony	30 degrees
Maximum Head Rotation	60 degrees
Easy Head Movement	45 degrees
DIMENSIONS OF SEATED HUMAN FIGURE	5" mean dimension eye to top of head
	44" mean eye height from floor
DIMENSIONS OF SEAT	34" average dimension floor to top of chair back
	23" average dimension floor to top of arm rest
	16" average dimension floor to top of chair seat
	36" average dimension back of seat to back of seat
THEATRE SEAT WIDTH	22" maximum
	20" average
	18" minimum

ACOUSTICS[11]

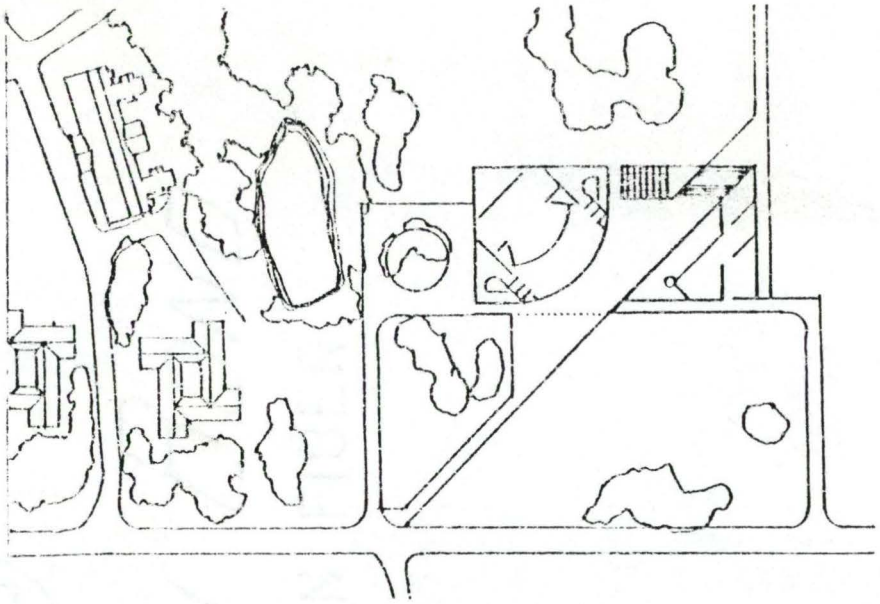
RECOMMENDED NOISE CRITERIA FOR ROOMS

SPACE	PREFERRED RANGE OF NOISE CRITERIA	EQUIVALENT dBA LEVEL
Concert Hall, Recital Hall	NC-15 to NC-20	25 to 30
Auditoriums, Theatres, music practice room	NC-20 to NC-30	30 to 40
Office, classrooms	NC-30 to NC-35	40 to 45
Lobbies, corridors, studios	NC-40 to NC-45	50 to 55
Machinery rooms	NC-45 to NC-55	55 to 65

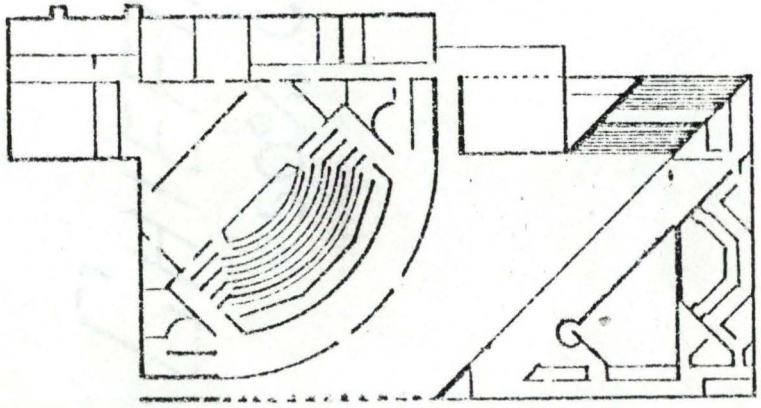
OPTIMUM REVERBERATION @ 500/1000 H_z

Small theatres	1.2 to 1.4 seconds
Orchestra, recital, chamber music	1.4 to 1.8 seconds

CASE STUDY



SITE PLAN



GROUND FLOOR

Project: Paul Mellon Center for the Arts for Choate and Rosemary preparatory schools

Location: Wallingford, Connecticut

Architect: I.M. Pei

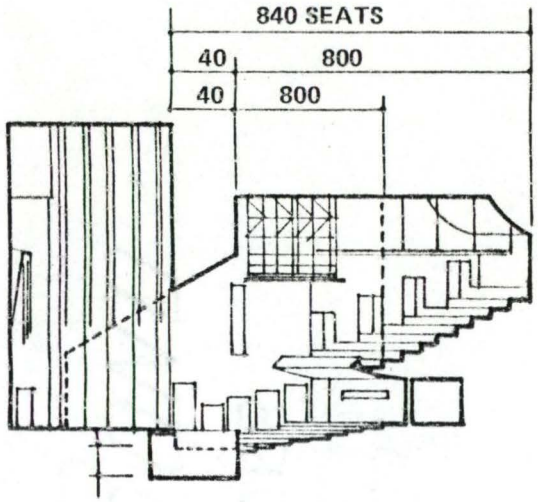
Functions: 840 seat auditorium, student lounge, classrooms, music practice rooms, art studios, small recital room

Structure: Concrete wall and floor system with steel roof framing, exterior sheathed in concrete panels

Description:

The Paul Mellon Center, located on a grassy meadow site, is symbolically and literally a connecting link between two campuses. The center is a composition of two building masses bisected by the partially open pathway link. Off the pathway are the student lounge and auditorium lobby, with both public spaces visually tied to the path. A two story lounge connects six levels of art studios, practice rooms and classrooms. Similarly, the auditorium lobby connects both main level and balcony levels.

The auditorium was designed to handle both music and drama with a variety of seating capacities. For music there are three possible arrangements; an 800 seat theatre with orchestra pit and full stage for musicals, an expanded stage with an acoustical shell for orchestral performances, and a 400 seat recital hall or chamber music hall without balcony. Drama arrangements consist of; an 840 seat theatre using the orchestra pit for house seats, an 800 seat theatre with orchestral accompaniment, or a 400 seat threatre for more intimate presentations.[12]



Positive Aspects:

Encourages activities participation by bringing pedestrian walkway through the facility.

Recital room provides a pleasant intimate atmosphere.

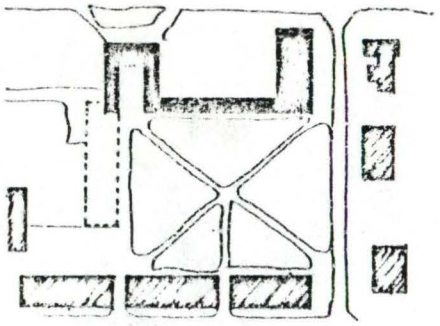
Negative Aspects:

The monumental scale of the building does not seem appropriate for small size institutions.

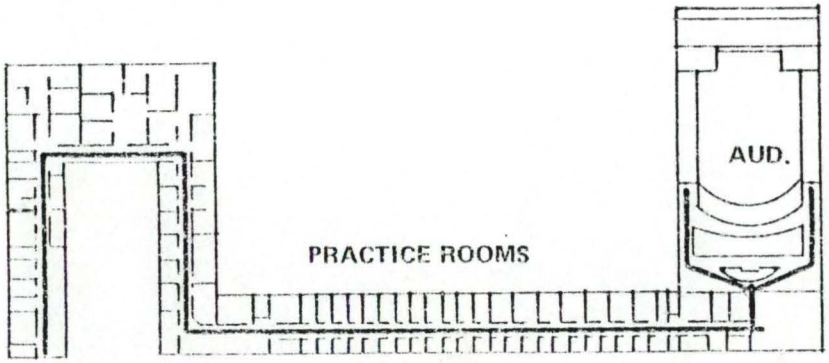
The site orientation of the facility would have been better if it made use of the small pond.

Fly loft height is not high enough.

CASE STUDY



SITE PLAN



SECOND FLOOR

Project: Drake University Fine Arts Building

Location: Des Moines, Iowa

Architect: Harry Weese & Associates

Functions: 700 seat auditorium, rehearsal space, music practice rooms, offices, art studios

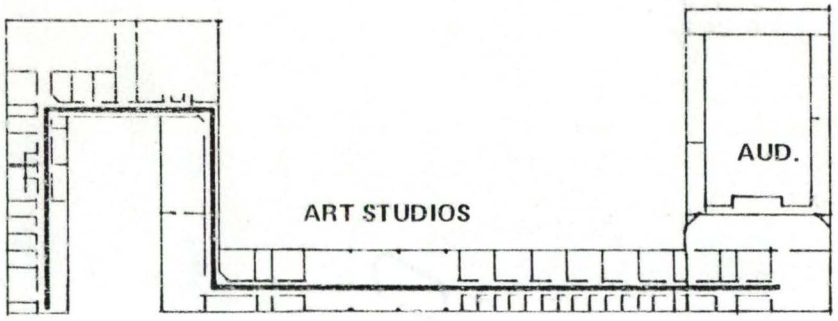
Structure: Concrete pan floor system exposed at ground level arcade, brick exterior walls, concrete block partition walls, steel frame roof over auditorium

Description:

The Fine Arts building on the Drake University campus has been conceived as a long narrow three story mass to define the one edge of a green space. Much of the ground floor level has been kept open so one sees through the building to a landscaped area beyond. The building image is restrained to blend with the existing campus.

As seen in its exterior form the auditorium projects out from the longer mass bounding the green space. To balance this the opposite end makes a square U shape which could be extended for future expansion.

The 700 seat auditorium is designed to adapt to both concert and drama use. For drama performances a proscenium arch folds down from the ceiling at either side of the stage. For musical events the arch is retracted and acoustical panels on both side walls are adjusted for proper sound reverberation. A bridge like balcony is open at the back to allow sound movement to the rear orchestra seats. The interior surfaces are treated



THIRD/FOURTH FLOORS

in warm earth tones.[13]

Positive Aspects:

Building form improves the campus open space.

Clear strong statement of function and movement.

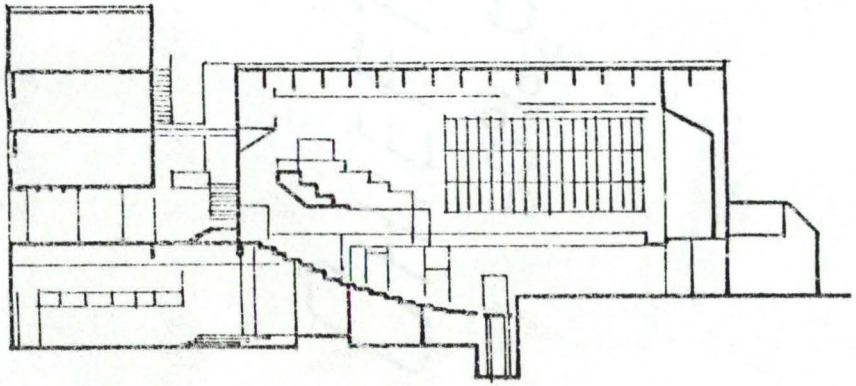
Facility expansion considered.

Negative Aspects:

For drama the auditorium has no wing space for scenery, props, etc.

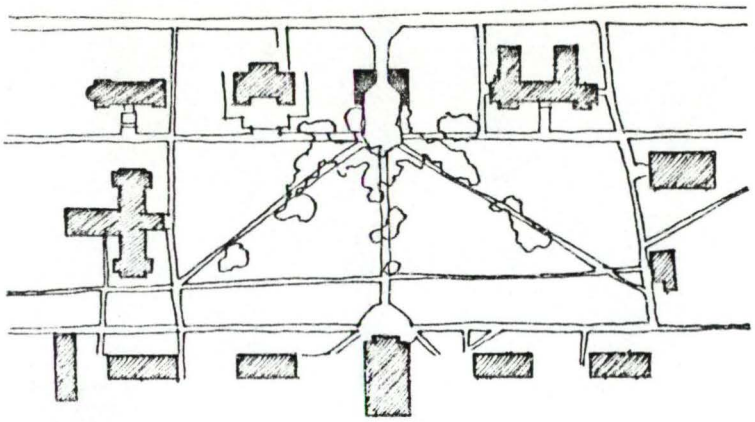
Backstage storage is located one floor below.

Possible scheduling problems with dual usage auditorium.

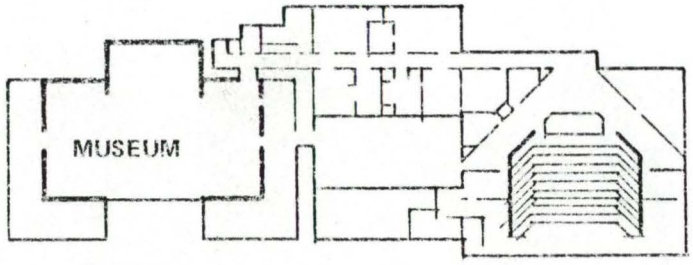


SECTION THROUGH AUDITORIUM

CASE STUDY



SITE PLAN



BASEMENT FLOOR

Project: Visual Arts Center at Bowdoin College

Location: Brunswick, Maine

Architect: Edward Larrabee Barnes

Functions: Auditorium, lecture room, library, art studios, gallery and offices

Structure: Steel frame superstructure resting on concrete retaining walls. First floor, part of which projects beyond upper building envelope is of precast concrete tees.

Description:

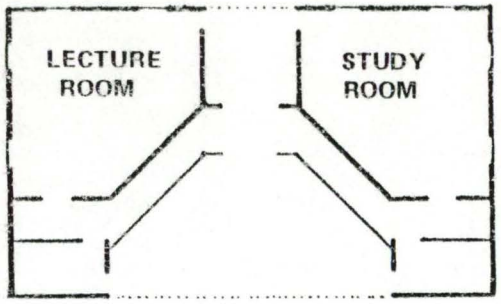
The Arts Center is an addition to a sensitively planned campus quadrangle enclosed by Classical and Early American Gothic architecture. The quadrangle is covered by a tree canopy and defined by buildings of similar height and massing, separated from each other by distance roughly equal to their length.

The entry to the center, on axis with the chapel across the quadrangle, is a broad opening cut into the building with glass enclosed display hallways on either side. A unique feature at the entry point is the vestibule passage which remains closed during inclement weather and open during good weather to allow easy passage through the building.

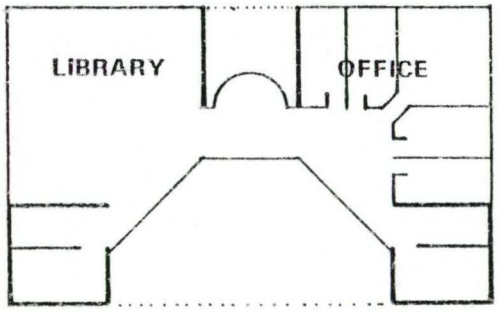
Positive Aspects:

Building fits within the campus in an unpretentious manner.

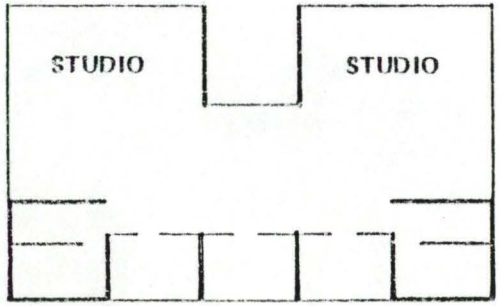
The building location does not disturb existing pedestrian movement patterns.



GROUND FLOOR



SECOND FLOOR



THIRD FLOOR

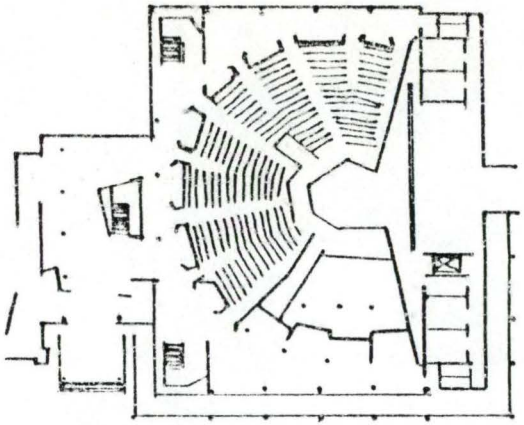
The problem of entry approach from two sides is simply resolved.[14]

Negative Aspects:

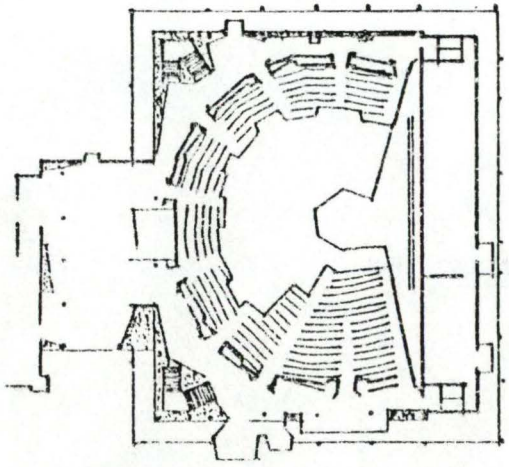
Access to the auditorium is not easily identifiable.

Future expansion to this architecturally form would be difficult.

CASE STUDY



ORCHESTRA AND STAGE LEVEL



BALCONY LEVEL

Project: Tyrone Guthrie Theatre

Location: Minneapolis, Minnesota

Architect: Ralph Rapson, AIA Architects

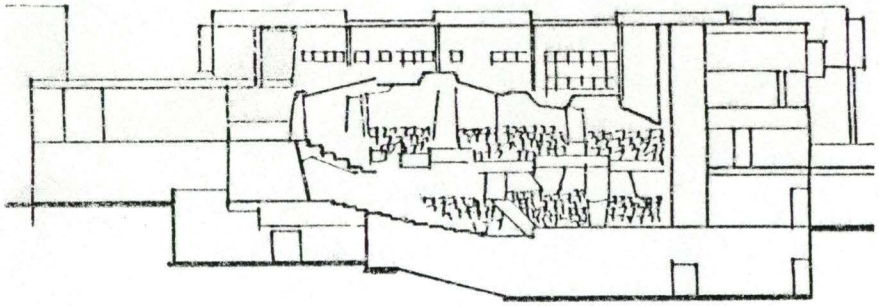
Functions: 1437 seat threatre and support areas

Structure: A multilayered lightweight steel frame enclosure infilled with glass on public facades and containing a totally enclosed theatre space "floating" within it

Description:

The Tyrone Guthrie Theatre is an addition to the Walker Art Center and is connected to this building by a two story lobby leading to both orchestra and balcony level seating. The thrust stage form of the theatre is a direct outgrowth of the collaboration of the architect and the theatre director. The principle objective was to create an intimate performer audience relationship.

Through the use of an open stage with seating on three sides arranged in an asymmetrical manner, of the 1437 seats none are more than 15 rows back from the stage. Behind the open stage is a shallow fly loft, which can be closed off with sliding panels, to permit the use of different stage backdrops. In describing the building, the architect feels "the interior character of the house should dramatically set the scene for the performances, anticipating and enhancing a lively and stimulating event." The exterior of the building is encased in light screening gridwork.[15]



SECTION

Positive Aspects:

The theatre offers a wide variety of seats, all with excellent sight lines.

Ample space has been allocated to lobby and circulation areas.

Negative Aspects:

Theatre is limited to one type of seating.

403 Mixed occupancy separation requirement

Assembly	small	2 hour
	large	4 hour
Educational		2 hour

404 Assembly occupancy

404.1 Scope -- occupancy shall include structures for the purpose of the gathering together of persons, i.e., Public Assembly Hall, Theatres for stage performances.

404.2 Sub-classification

(a) Large assembly -- theatres and places of assembly with working stages and having capacity of 700 or more; also, theatre and places of assembly having non-working stage but with capacity of 1000 or more.

(b) Small assembly -- theatre and places of assembly of 100 or more.

404.5 Large assembly -- with working stage shall be Type I or II construction.

404.7 Sprinklers and standpipes for working stages -- theatres classified as large assembly shall have sprinklers over stage and support areas.

404.9 Non-working stages -- such stage areas may be an unenclosed area or raised platform in the assembly room.

404.10 Working stages

(a) All such stages shall be enclosed on all sides with walls having not less than 4 hour fire resistances from foundation to 4 feet above roof.

404.10

Working stages (continued)

(b) No opening in wall separating stage from auditorium except proscenium opening and necessary door openings to musicians pit or auditorium floor, doors with 3 hour fire rating.

(f) All portions of working stages, other than the scenery machinery, shall be Type I construction.

(h) Roof of Type I construction.

(i) Dressing rooms, scene dock, workshops shall be of Type I or II construction with a fire-resistance rating separation of 3 hours and each such room shall be separated from each other by a 2 hour fire-resistant wall, except between dressing rooms, 1 hour.

404.11

Proscenium curtain – the proscenium opening shall be provided with a curtain or metal non-combustible material to prevent passage of flames for 30 minutes.

404.14

Aisles and seating

(a) Maximum dead end aisle, 20 feet.

(b) Aisles shall not be less than 42" at the narrowest and farthest end from foyer, plus an increase of 1½" for each 5' of length of aisle from beginning to an exit, except aisles serving seats on one side 6" less.

Cross aisles not less than 3' 6" wide.
Aisles bordering on means of entrance not less than 4'.

(d) Aisles with slope of not more than 1 in 8.

(e) 14 seats per row with two aisles, 7 seats with one aisle.

(g) Exits and aisles with travel distance of not more than 150'; 200' for sprinkled building.

404.15 Continental seating system

(e) Chairs not less than 20" in width.

(f) Maximum number of chairs per row, 60.

(p) Number of intervening seats between any seat and aisle may be 49 where exits are provided along aisles, pair of exit doors 66" for each 5 rows.

Side aisles not less than 44".

508 Accessibility for the physically disabled or handicapped

508.3 Requirements

Curb cuts minimum 4' wide, 1/12 gradient.
Each parking space not less than 12' wide.
Number of spaces for handicapped

Total number of spaces	HC spaces
0 – 25	1
26 – 50	2
51 – 75	3
76 – 100	4
101 – 150	5
151 – 200	6
201 – 300	7
301 – 400	8
401 – 500	9
501 – 1000	2%

Seating Accommodations Assembly Spaces	
0 – 25	1
26 – 50	2
51 – 75	3
76 – 100	4
101 – 200	5
201 – 300	6
301 – 400	7
401 – 500	8
501 – 1000	9 or 2% total

1100 Means of egress requirement

1103 Maximum distance of travel

	unsprinkled	sprinkled
Group A Assembly	150′	200′
Group E Educational	150′	200′

1103.2 Minimum number of exits

Small assembly spaces at least 2 exits.
Large assembly spaces at least 3 exits.
Assembly spaces over 1000 seats 4 exits.

1105.1 Occupant content for determining exits required

Assembly with fixed seating -- actual number of seats
standing-- 3 sq. ft. Net

Educational classrooms 20 sq. ft. Net

1105.3 Capacity of means of egress

		level travel	stairs
(a)	Group Assembly	100	75
	Group Educational	100	75

(b) Minimum aggregate width of main entrance doorways for 'a' occupancies shall be sufficient to accommodate 50% of occupant content and not less than 36".

1107 Monumental stairs

Enclosure not required when connecting entrance floor to floors above or below or mezzanine or balcony.

a. Such stairs are not exit required.
b. Such stairs not to connect with corridors providing access to exit.

1110

Means of egress for stage and dressing room areas

A-1 Large Assembly -- not less than one exit to street exit or passageway or 3' or more shall be provided from each side of stage and an exit from sub-stage, basement, fly gallery.

THEATRES AND AUDITORIUMS

Occupant content, actual number of audience seating

number of persons	number of fixtures, w.c.
0 – 100	1
101 – 200	2
201 – 400	4
1 fixture for each additional 400 persons	

number of persons	number of fixtures, u.
0 – 100	1
101 – 200	2
201 – 400	3
401 – 600	4
1 fixture for each additional 300 persons	

number of persons	number of fixtures, lav.
0 – 200	1
201 – 400	2
400 – 750	3

Division of facilities

Male 50%
Female 50%

Drinking fountain – 1 for each 100 persons

SCHOOLS AND COLLEGES

Number of fixtures, w.c.

1 for every 25 males
1 for every 25 females

Number of fixtures, u.

1 for every 12 males

Number of fixtures, lav.

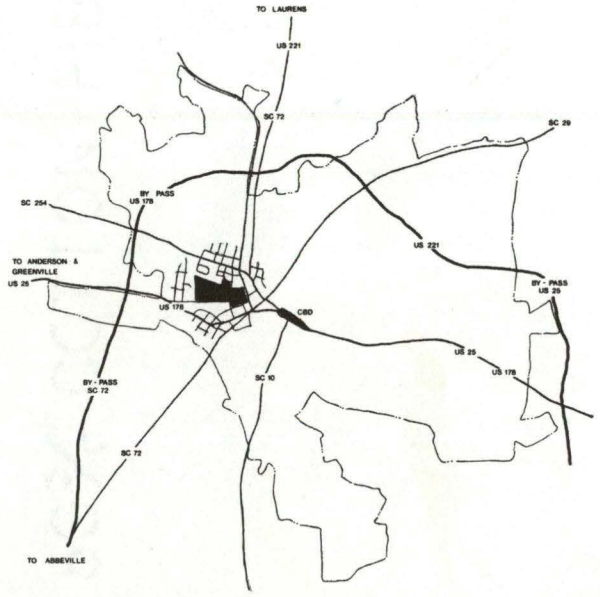
1 for every 25 persons

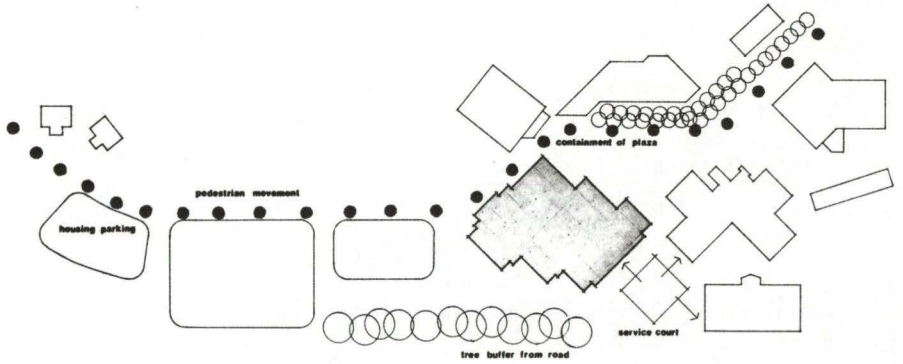
ARCHITECTURAL SOLUTION

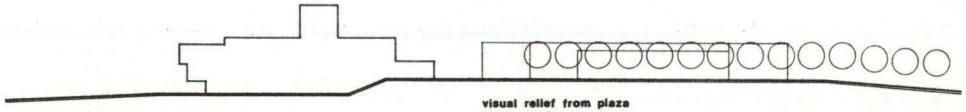
FINE ARTS CENTER, LANDER COLLEGE

A TERMINAL PROJECT SUBMITTED TO THE FACULTY OF THE COLLEGE OF ARCHITECTURE, CLEMSON UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARCHITECTURE.

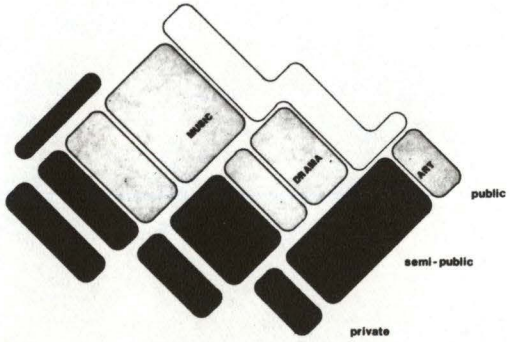
Joseph D. Riggs ac. · 1980

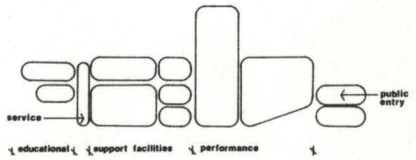






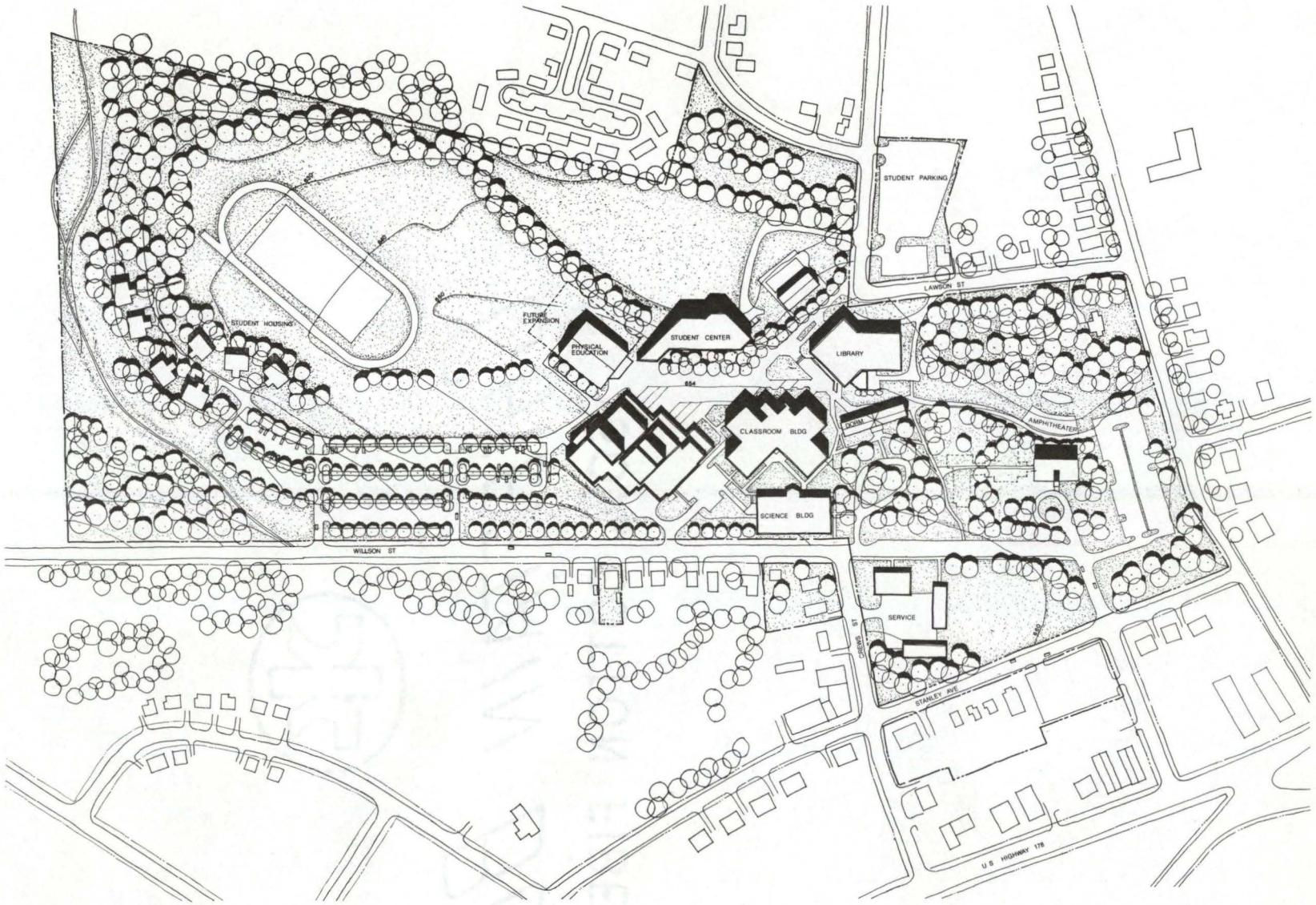
SITE CONCEPT



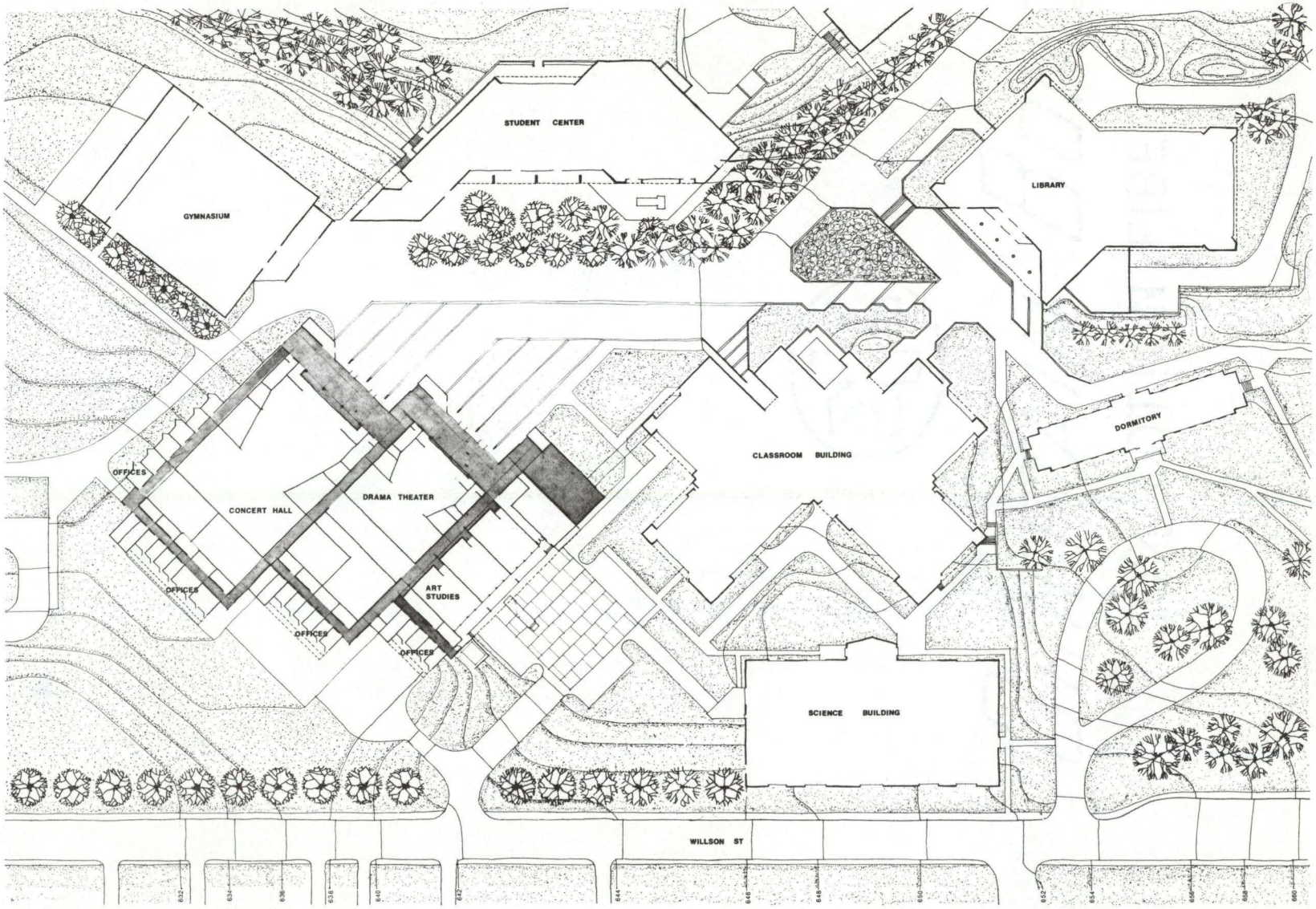


BUILDING CONCEPT

LOCATION / CONCEPT

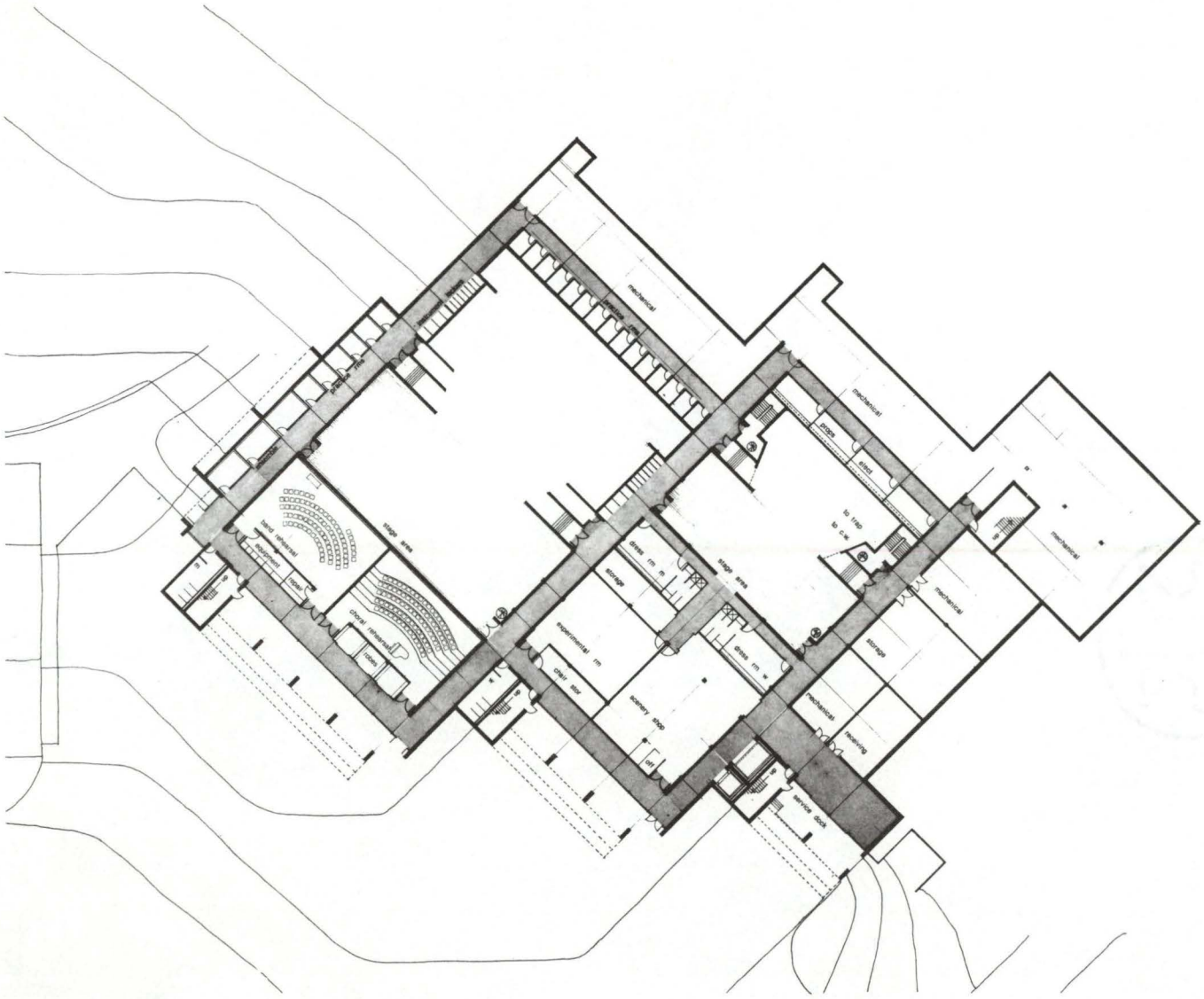

STUDENT PARKING
LAWSON ST
STUDENT HOUSING
FUTURE EXPANSION
PHYSICAL EDUCATION
STUDENT CENTER
LIBRARY
CLASSROOM BLDG
DORM
AMPHITHEATER
SCIENCE BLDG
WILLSON ST
SERVICE
STANLEY AVE
U S HIGHWAY 178

SITE PLAN



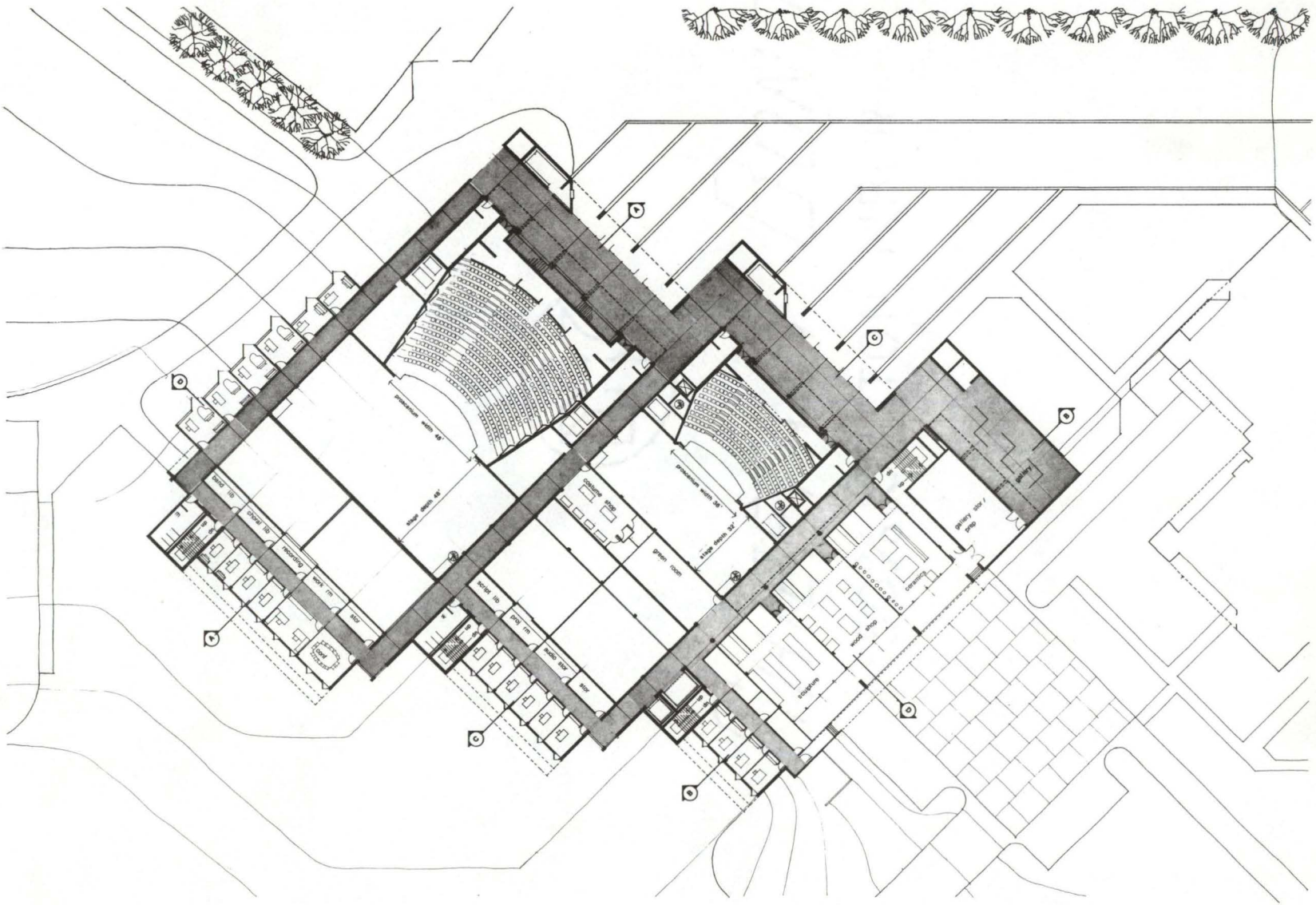
COLLEGE CENTER

0 30 60 120



GROUND LEVEL

0 16 32 64



PLAZA LEVEL

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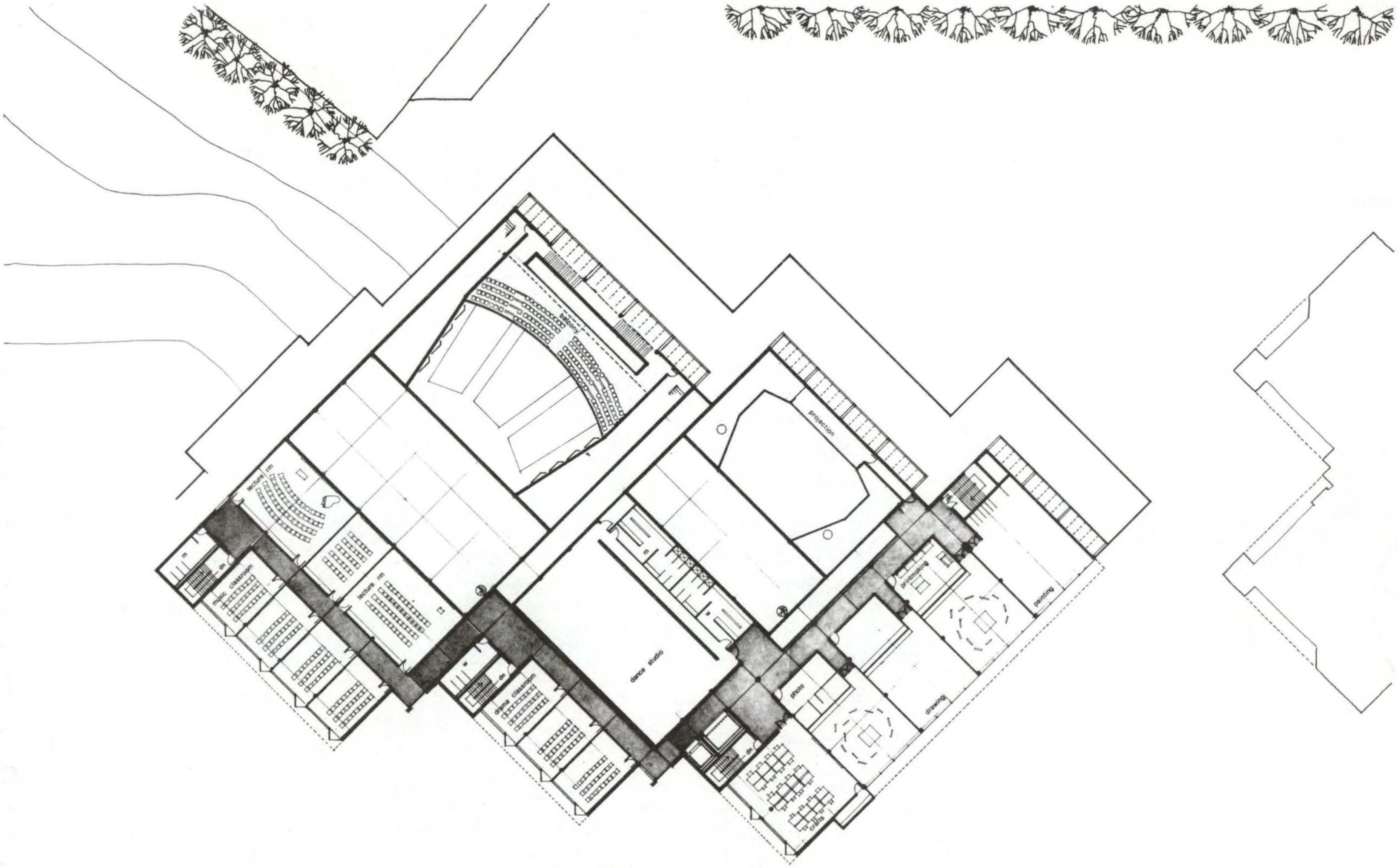
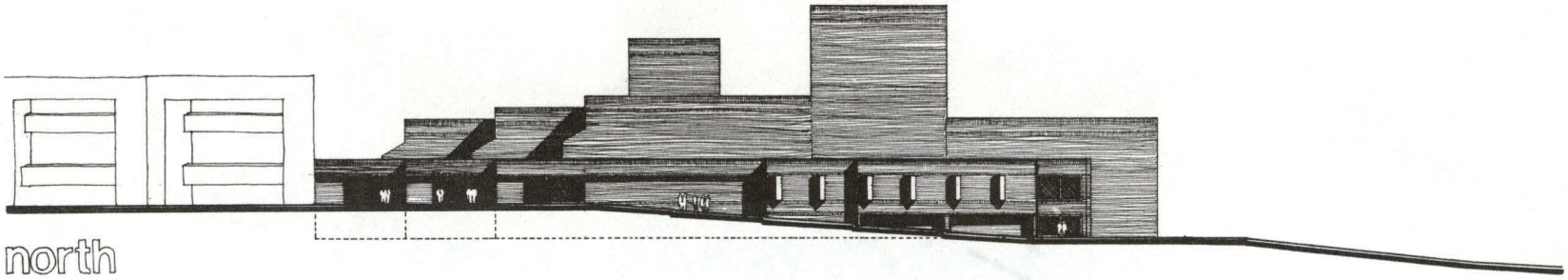
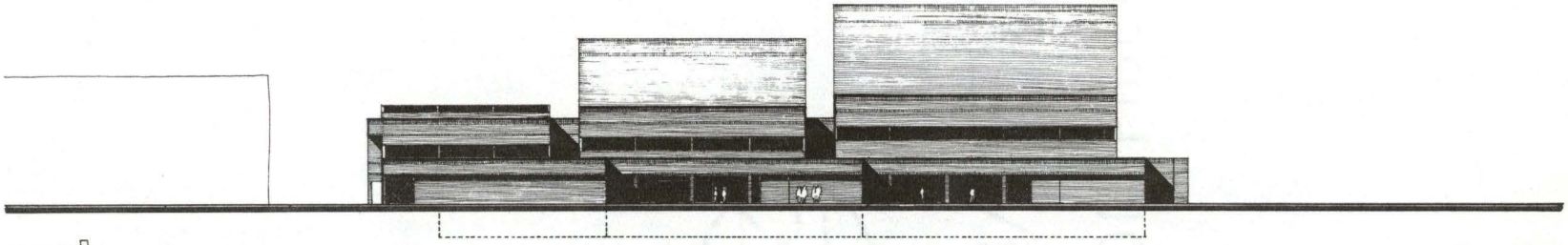

lecture rm
music classroom
lecture rm
projection
dance studio
drama classroom
printmaking
painting
photo
drawing
crafts

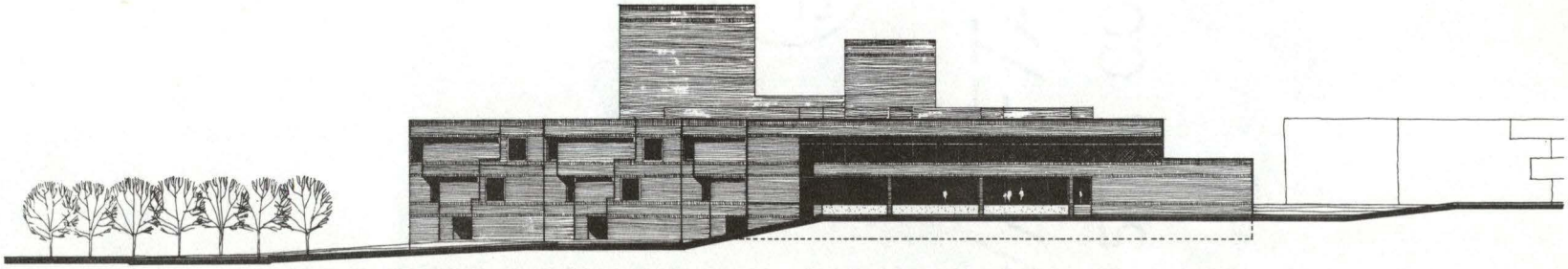
UPPER LEVEL



north



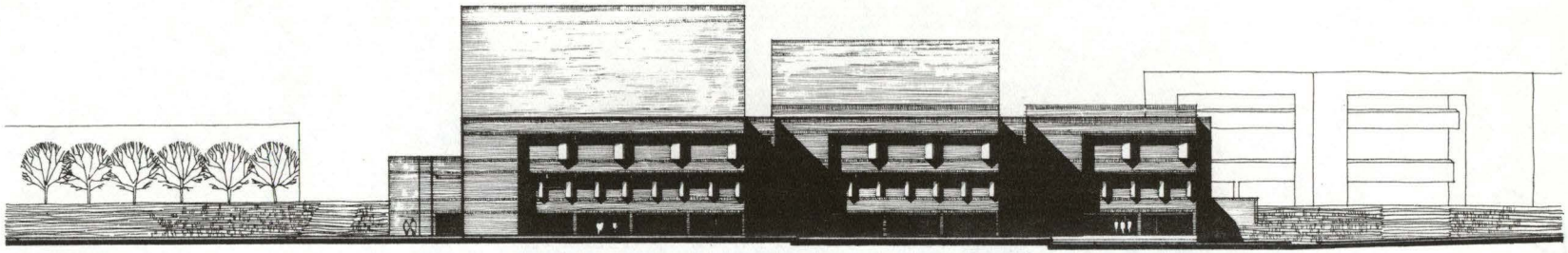
east



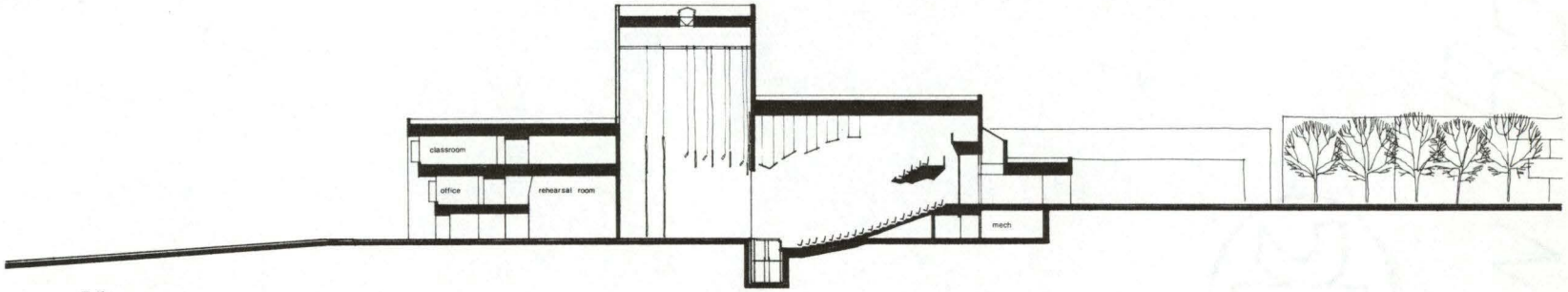
south

ELEVATIONS

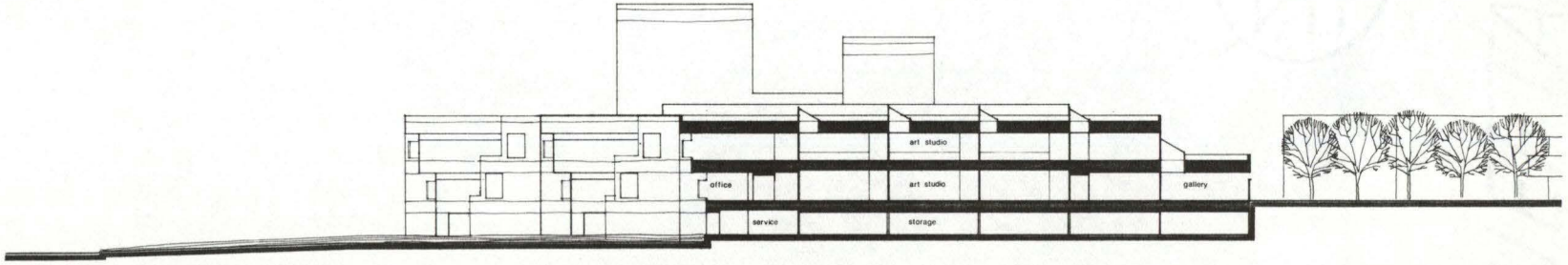
0 16 32 64



west

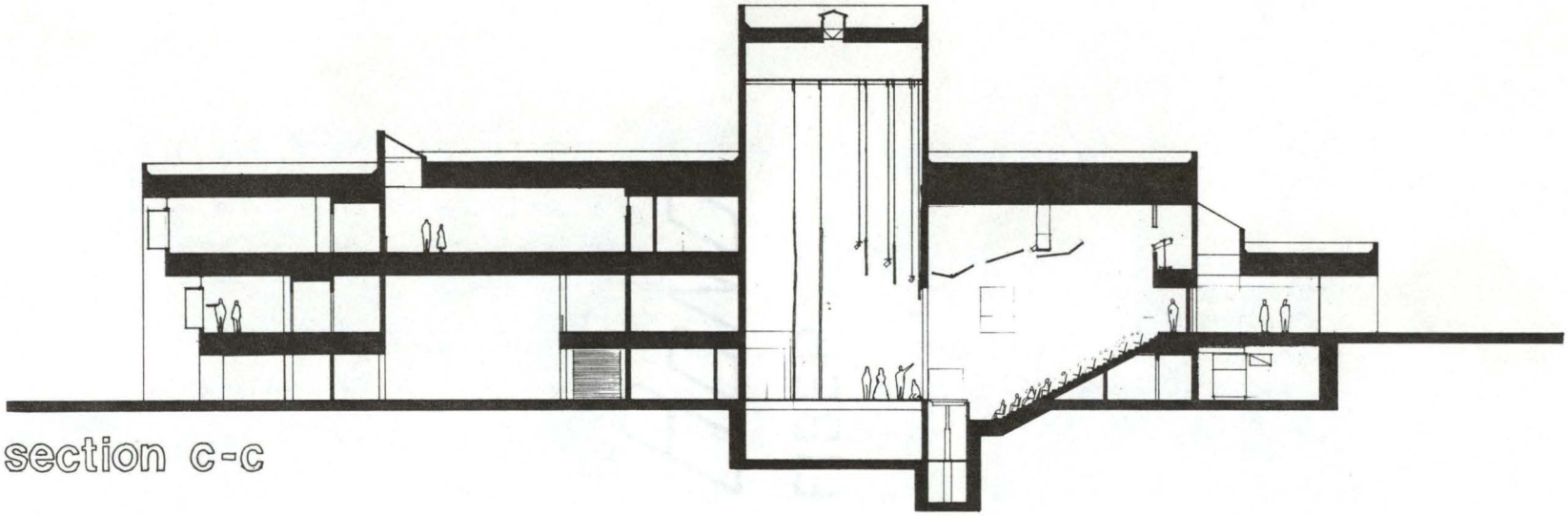


section a-a

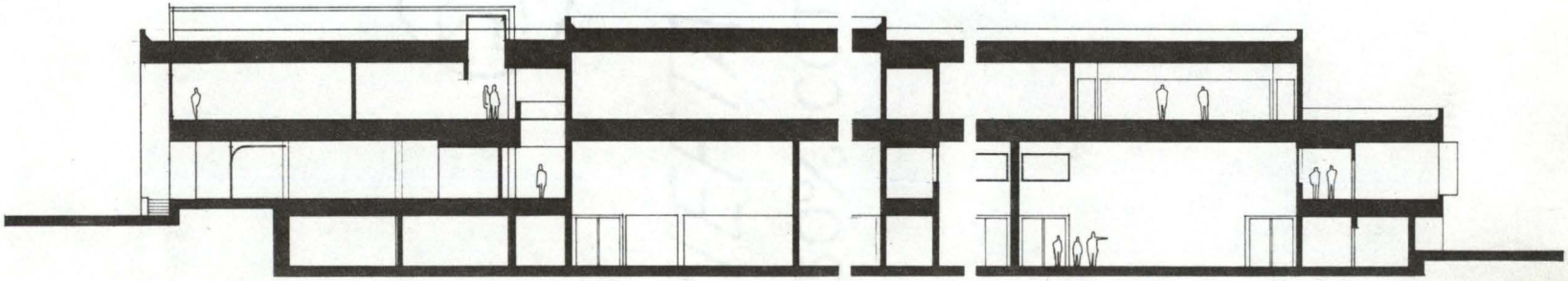


section b-b

ELEVATIONS / SECTION

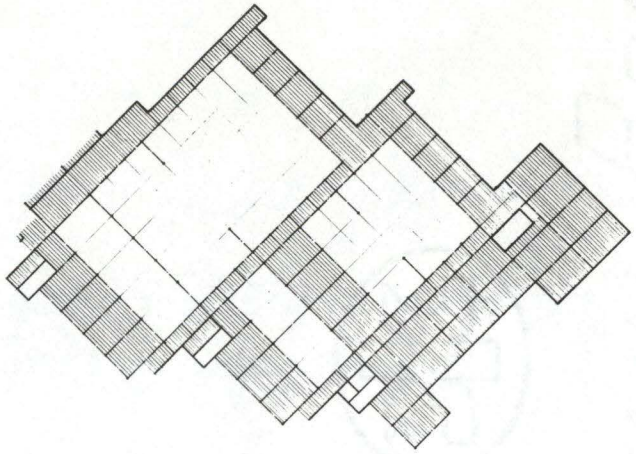


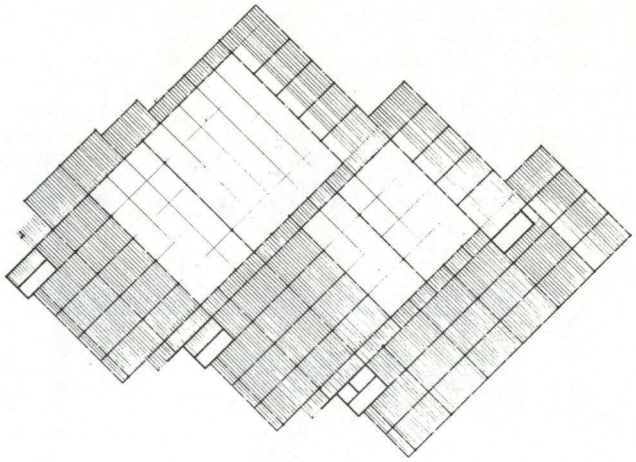
section c-c

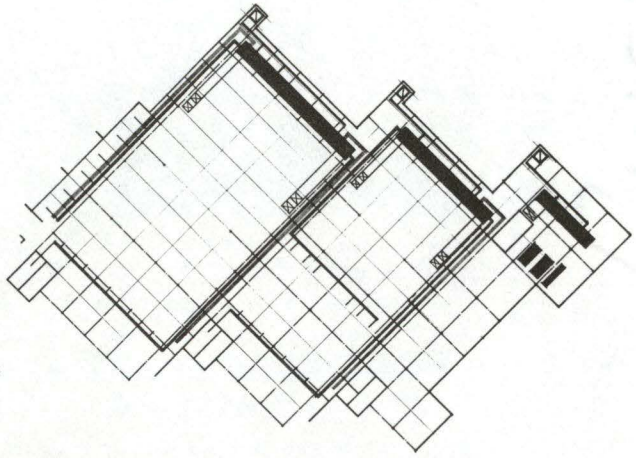


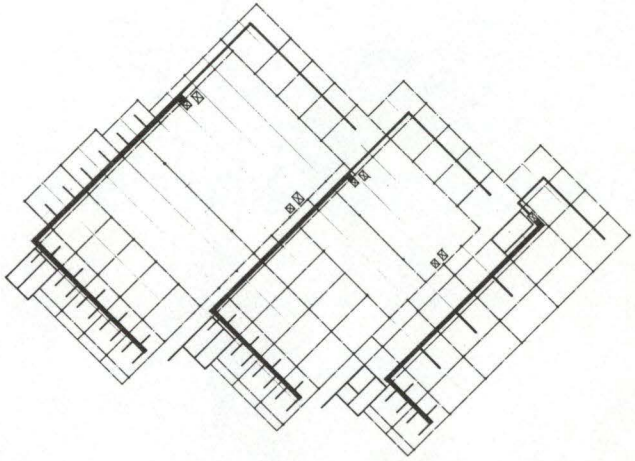
section d-d

BUILDING SECTIONS







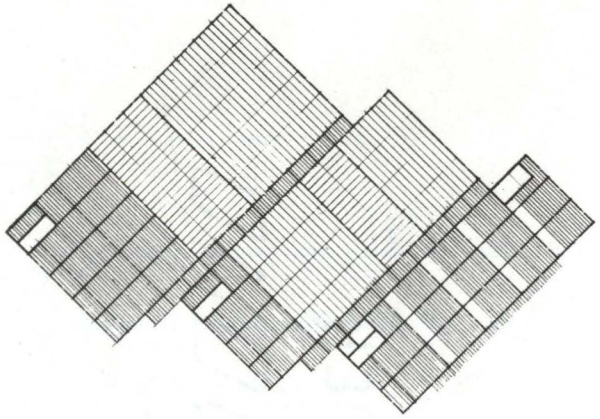


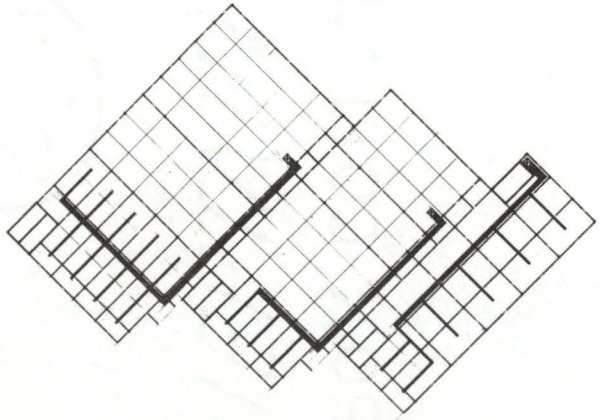
fresh air intake
air handler
boiler / chiller
supply ducts
supply chase
return

ground

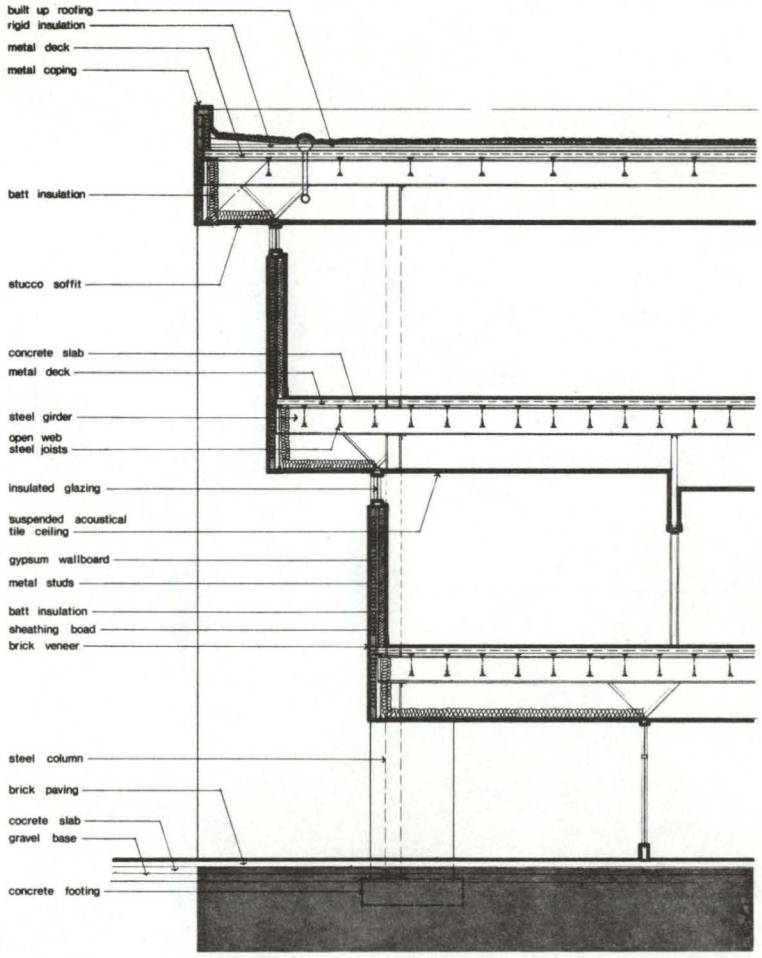
plaza

STRUCTURAL / MECHANICAL



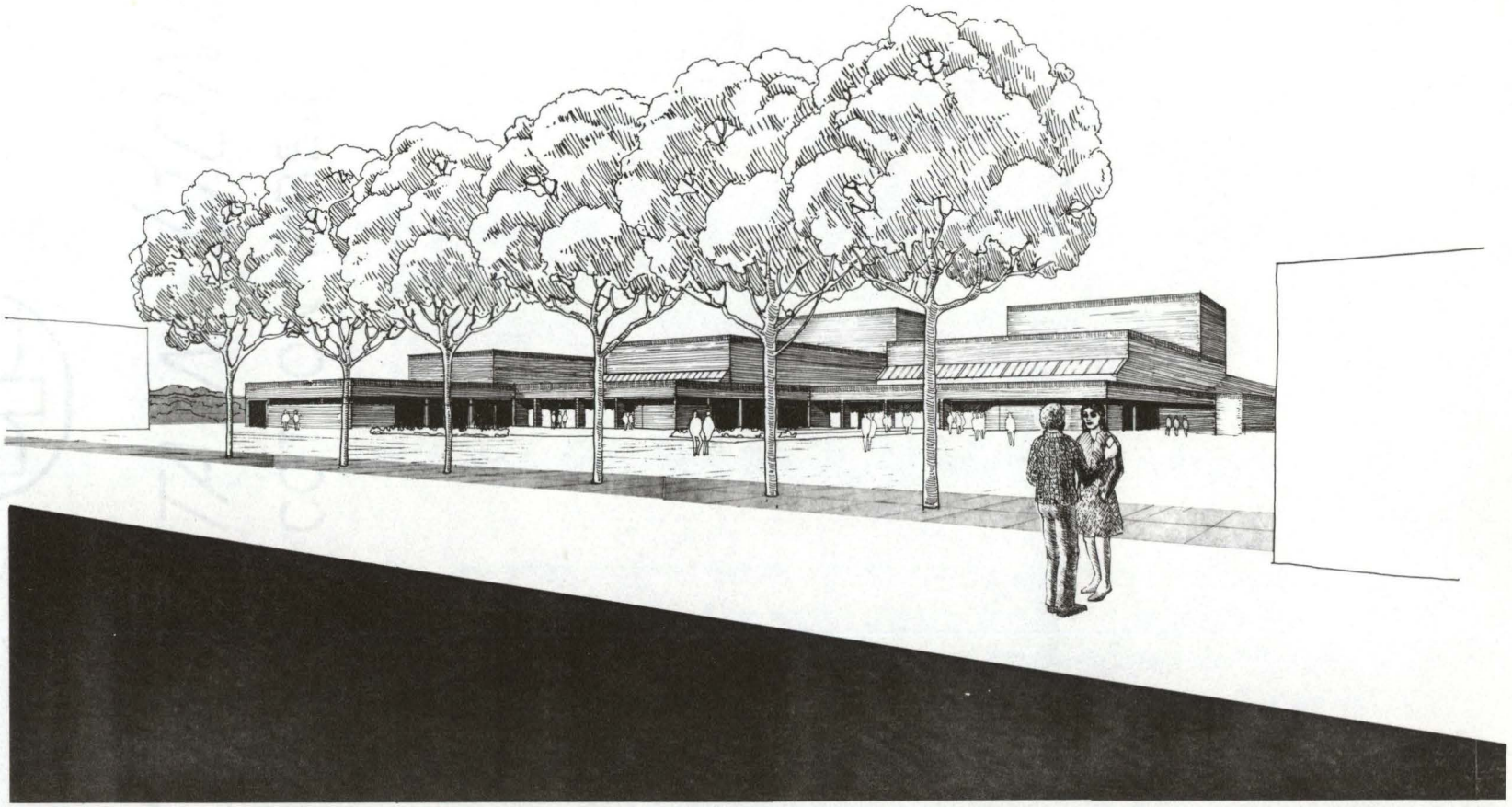


upper

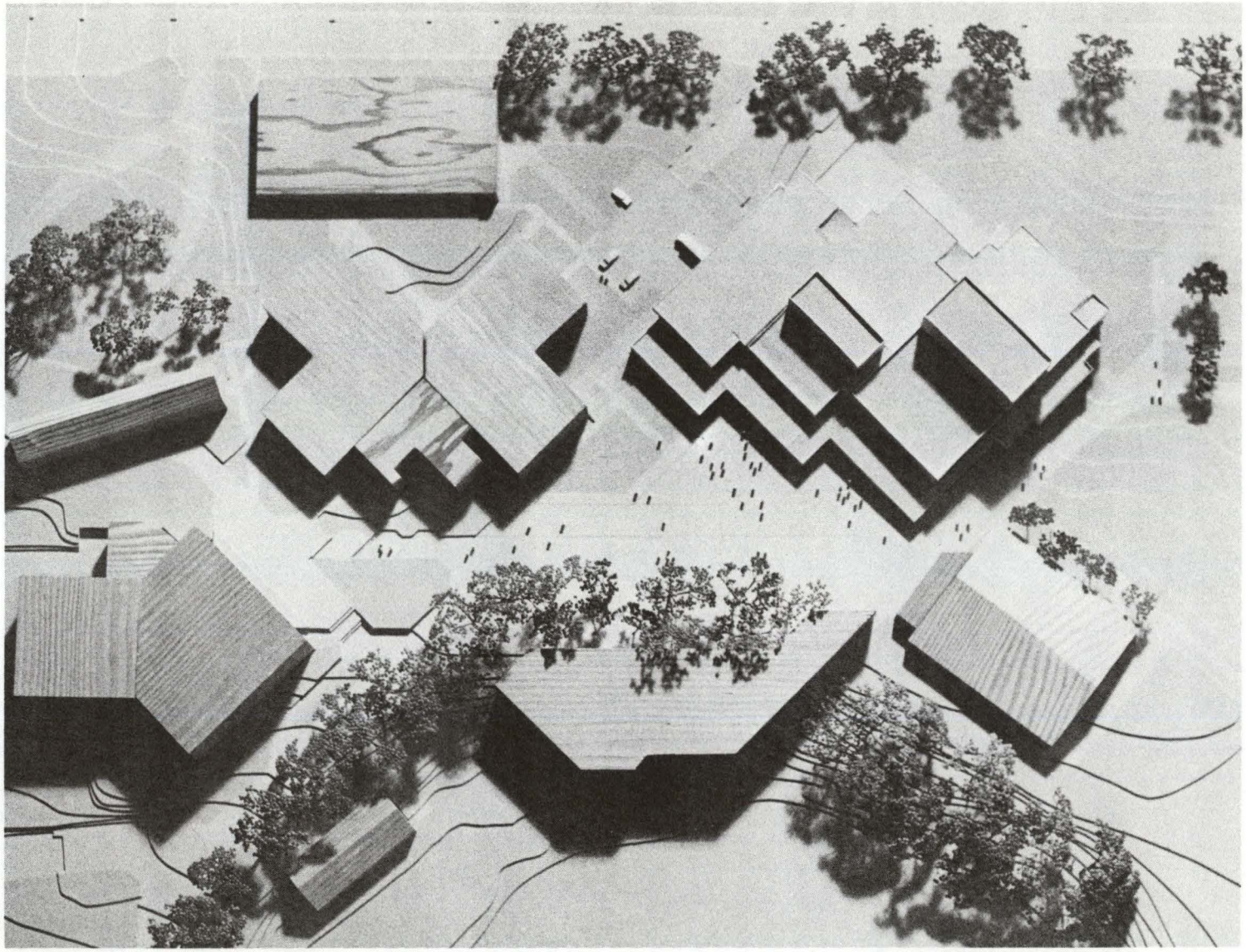


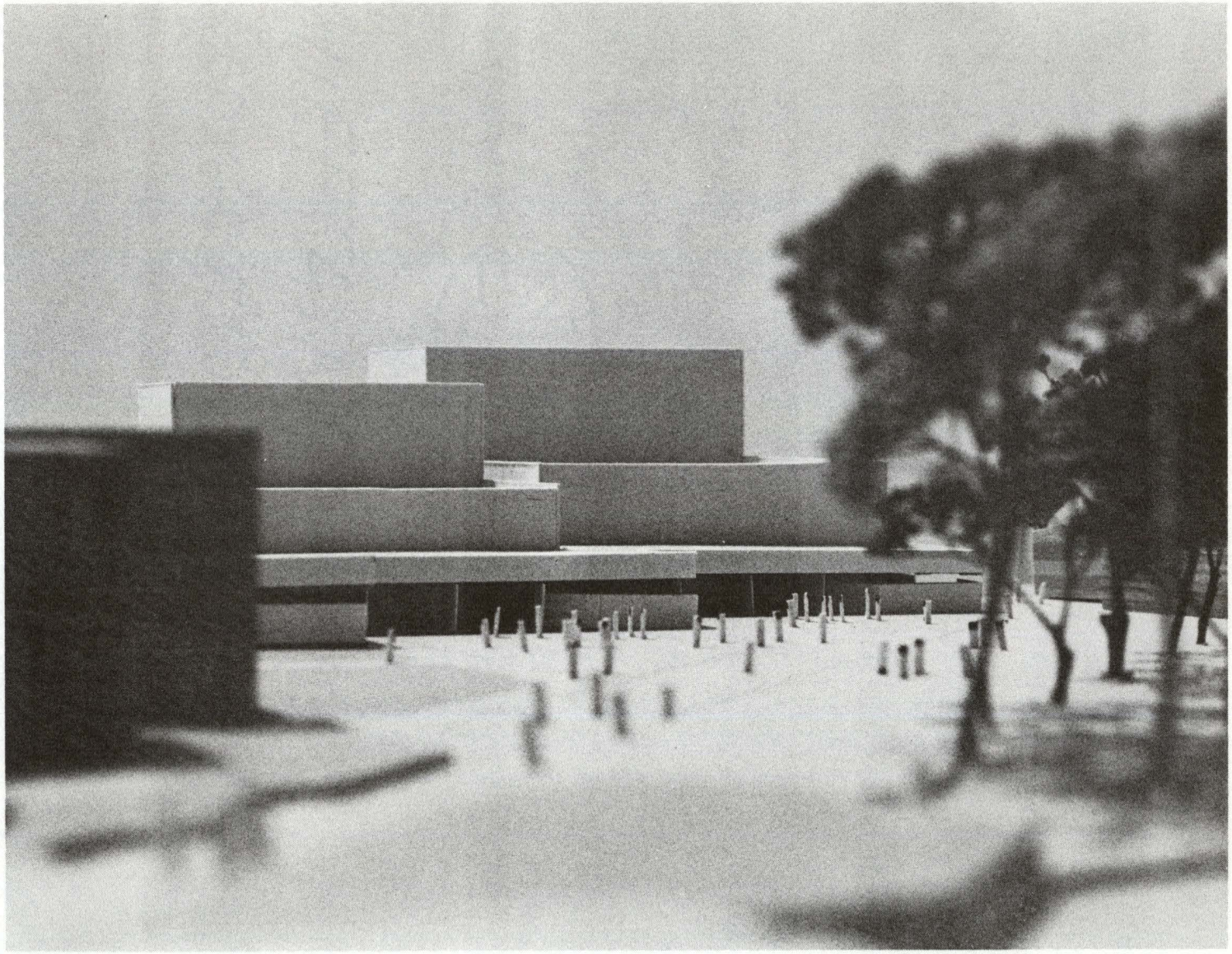
section

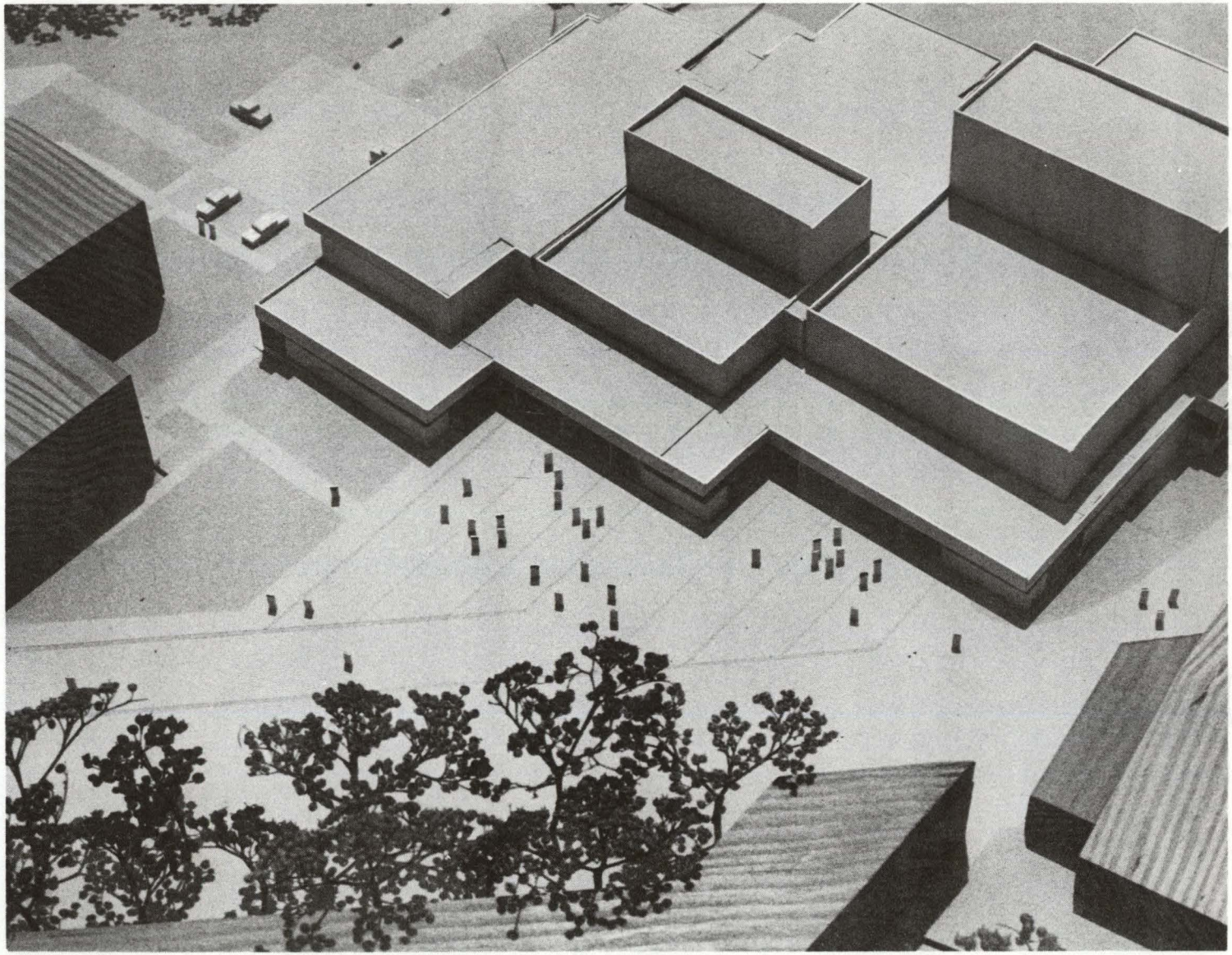
STRUCTURAL / MECHANICAL



PLAZA VIEW







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FOOTNOTES

[1]H. Davis Byrd, Lander College, "Campus 80," March 1974, p. 5

[2]Ibid., p. 5.

[3]Ibid., p. 6.

[4]Ibid., Appendix A.

[5]Lander College Catalog, Issue for 1979–80, pp. 30–32.

[6]H. Davis Byrd, Lander College, "Campus 80," March 1974, p. 101.

[7]Lander College Catalog, Issue for 1979–80, p. 50.

[8]Ibid., p. 50.

[9]Architectural Graphics Standards.

[10]George C. Izenour, Theatre Design, New York: McGraw-Hill Book Company, 1977.

[11]M. David Egan, Concepts in Architectural Acoustics, New York: McGraw-Hill Book Company, 1972.

[12]"Arts Center for Choate and Rosemary," Architectural Record, January 1973, p. 111.

[13]Edward K. Carpenter, "Art Center As Anonymity." Architectural Forum, December 1973, p. 71.

[14]Mildred F. Schmertz, "An Art Center by Edward Larrabee Barnes," Architectural Record, March 1978, p. 107.

[15]"The Tyrone Guthrie Theatre," Progressive Architecture, February 1962, p. 99.

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